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COAST GUARD

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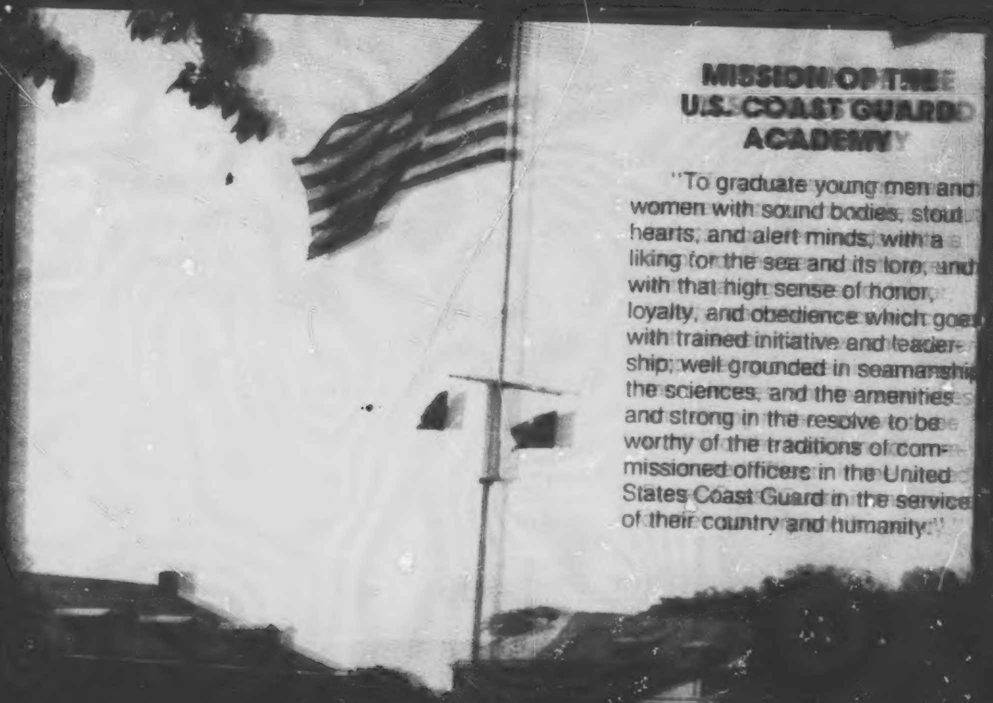

MISSION OF THE U.S. COAST GUARD ACADEMY

"To graduate young men and women with sound bodies, stout hearts, and alert minds, with a liking for the sea and its lore, and with that high sense of honor, loyalty, and obedience which goes with trained initiative and leadership; well grounded in seamanship, the sciences, and the amenities, and strong in the resolve to be worthy of the traditions of commissioned officers in the United States Coast Guard in the service of their country and humanity."

THE
U.S. COAST GUARD ACADEMY

BULLETIN OF INFORMATION

1985-86

"The Sea Yields to Knowledge"

Semper Paratus ..... Always Ready

U.S.C.G.C. EAGLE

THE ACADEMY

BEST COPY AVAILABLE

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FACILITIES

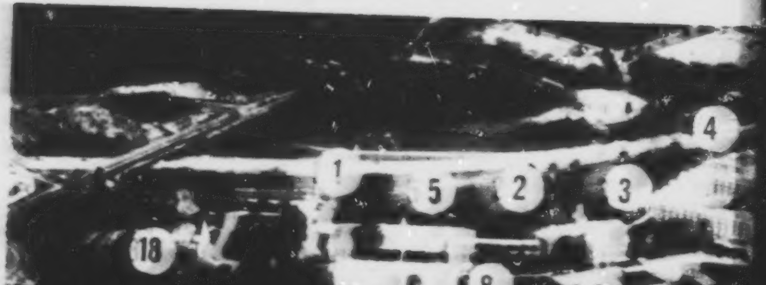
At first glance it looks like a typical small New England campus nestled on a wooded hillside stretching along the banks of the Thames River.

But the presence of the three-masted bark, the Eagle, docked at its berth next to a cutter, soon tells you that this is no ordinary campus. This is a nautical world.

The U. S. Coast Guard Academy is situated on a 120-acre site in New London, Connecticut. It's an appropriate location! The coastline is rich in the tradition of the whalers and mariners who sailed the seas in the last century.

A tour reveals facilities that rival many much larger institutions.

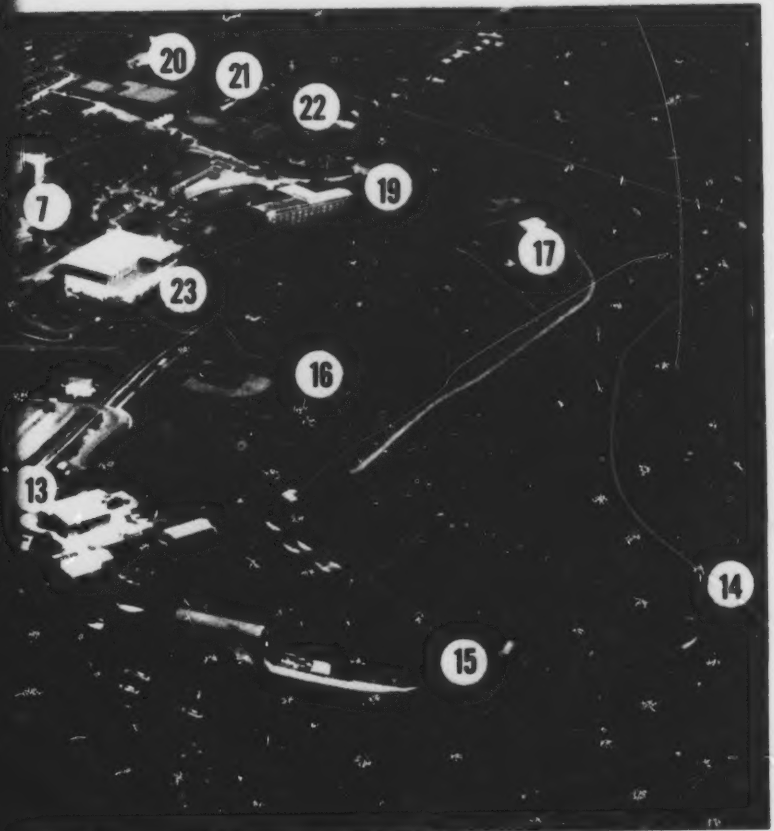
Going through the Academy's main gate (1) you see the "Washington Parade" (2) in front of Hamilton Hall (3), the administration building.



Next is Chase Hall (4) the cadet's quarters and Satterlee Hall (5) a classroom building and the location of a modern computer center. Behind Hamilton is McAllister Hall (6), the engineering building and Michel Hall (7), a complete, modern hospital. Down the hill from Yeaton Hall (8), cadet classrooms and armory, you will find Roland Hall (9), a field house and gymnasium that is one of the finest athletic facilities in New England, Billard Hall (10), the gymnasium, the rigging loft (11), and Cadet Memorial Field (12).

On the Thames River are the waterfront facilities including Pine Hall (13), Seamanship Sailing Center (14), and the Eagle's berth (15) all adjacent to Nelson W. Nitchma Field, the baseball, softball, socce and track areas (16). Also located on the lower field is the crew rowing center (17).

At the left is the Coast Guard Memorial Chapel (18). In the right are Munro Hall (19), the enlisted barracks, Waesche Hall (20), the Library, the USCG Museum, and Admissions Office, Dimick Hall Auditorium (21), Smith Hall (22), the science building, and Leamy Hall (23), the student union and auditorium. The Visitors Pavilion (24) is located on the south end of the Academy grounds.



HISTORY OF THE ACADEMY

What is known today as the U.S. Coast Guard Academy had its origin in legislation dated 31 July 1876. However, it was not until May of 1877, when nine cadets reported aboard the U.S. Revenue Cutter J.C. DOBBIN, that the first cadet training program was literally underway.

The home port of the DOBBIN was New Bedford, Massachusetts. Using the Mitchell Boat Company for classes, the Academy then was called the Revenue Cutter School of Instruction. As today, physical fitness and the study of math and the sciences were emphasized. The primary professional training was the summer cruise.

In 1878 the SALMON P. CHASE replaced the DOBBIN as the cadet training ship. Five years later, in 1883, there was a serious attempt by the Secretary of the Navy to transfer the functions of the Revenue Marine to his department, to acquire billets for excess graduates from Annapolis. This attempt failed. Another attempt to annex the Revenue Marine was made in 1889. Again it failed. But, as a consolation prize to the Navy, the Revenue Cutter School was shut down. It was to be defunct until resurrected by President Cleveland in 1894.

The years 1894 to 1900 could be called the gypsy years. This was because the School of Instruction consisted solely of underway training aboard the CHASE. Not until 1900 did the CHASE find a permanent homeport at Arundel Cove, Maryland, the site of the present Curtis Bay Coast Guard Yard.

Arundel Cove was the second site of a land-based Academy. There the Academy expanded to a "three-class" system. However, because of a need for better facilities, it was decided to look for another site. One was found in Fort Trumbull, located in New London, Connecticut.

The move to Fort Trumbull was completed in 1910. However, a third try to eliminate the Revenue Cutter Service was launched in 1911 by the Cleveland Commission; again unsuccessful. Nonetheless, a bill was passed barring appointment of additional cadets to the Revenue Cutter School. By 1914 there were only five cadets at Fort Trumbull.

In 1914, with the outbreak of World War I, the Academy once again revived. A year later, when the Life Saving Service and the Revenue Cutter Service merged as the U.S. Coast Guard, the "Academy" received its present name.

By 1922 the Academy needed to move again to accommodate the increased size of the corps. However, it was not until 1929 that money was appropriated to build the present Academy.

From 1931 to the present, the Academy continued to grow. In 1946 the EAGLE was acquired. The chapel was built in 1952. The Sixties saw Chase Hall being enlarged to accommodate 1200 cadets. Johnson and Munro Halls were also built during this period. In 1967 Roland Field House was constructed, and in 1973 Waesche, Dimick and Smith Halls were added. A major renovation was completed to modernize McAllister Hall in 1982. The Visitor's Pavilion was built in 1977, and the addition of the Crew Rowing Center in 1981 and the Seamanship Sailing Center in 1984 completed the expansion of the Academy.

While the Academy has changed locations a number of times in its history, two things have not changed. One, cadets from the very beginning were selected solely on the basis of merit. Two, honor, courage, devotion to duty, and high standards of professionalism have always been emphasized throughout the Academy's history.

HOW TO APPLY FOR APPOINTMENT AS CADET, UNITED STATES COAST GUARD.

Appointments are tendered solely on the basis of an annual nationwide competition. There are no congressional appointments, state quotas or special categories. All applicants, civilians or members of the Armed Forces, participate in the competition on an equal basis.

1. The competition for appointment as a cadet is based on your high school rank, your performance on either the College Board Scholastic Aptitude Test (SAT) or the American College Testing Assessment (ACT), and your leadership potential as demonstrated by participation in high school extracurricular activities, community affairs, or part-time employment.

2. To be considered for appointment, Class of 1990, you must take one of the following tests by the data indicated.

   A. The College Board Scholastic Aptitude Test (SAT) prior to or on Saturday, December 7, 1985.

   B. The American College Testing Assessment (ACT) prior to or on Saturday, December 14, 1985.

3. **Important reminder.** You must submit your formal application form enclosed in this publication, postmarked no later than December 15, 1985.

4. Complete admissions requirements are contained in the admissions sections in the rear of this publication.

Visiting the Academy.

The Coast Guard Academy is open for visitors daily from 10:00 A.M. to sunset.

On Friday afternoons at 1:15 P.M., there is a special admissions presentation, including a film, question and answer period and tour of the campus. Appointments for the

Friday afternoon presentation may be arranged by writing to the Director of Admissions, U.S. Coast Guard Academy, New London, Connecticut 06320, or by calling (203) 444-8503.

THE ACADEMY PHILOSOPHY

"You get more than a college education here. It's tough, so you better be prepared to accept it mentally, physically and spiritually."

A Cadet

The Academy, like other colleges, strives to make each graduate a well-informed, contributing member of society, fully prepared to accept life's responsibilities.

But that's just the beginning.

Each Academy graduate must also be a qualified officer, capable of leadership. For this reason, the program at the Academy is more rigorous and more demanding than non-military colleges, to meet the professional needs of the United States Coast Guard.

The educational philosophy of the Academy has three basic objectives:

1. To provide by precept and example an environment which encourages a high sense of honor, loyalty and obedience.
2. To provide a sound undergraduate education in a field of interest to the Coast Guard.
3. To provide training which enables graduates to assume their immediate duties as junior officers aboard ship.

With these three principles serving as guidelines, the Academy staff has evolved the present curriculum, which leads to a Bachelor of Science degree and a commission as ensign in the United States Coast Guard. The Coast Guard Academy is accredited by the New England Association of Schools and Colleges.

In addition, the majors in marine engineering, civil engineering and electrical engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Revisions to this curriculum are effected, as needed, by the Academy Academic Council, with the approval of the Superintendent. The curriculum is constantly being reviewed and updated to stay abreast of the modern trends in education and the needs of the United States Coast Guard.

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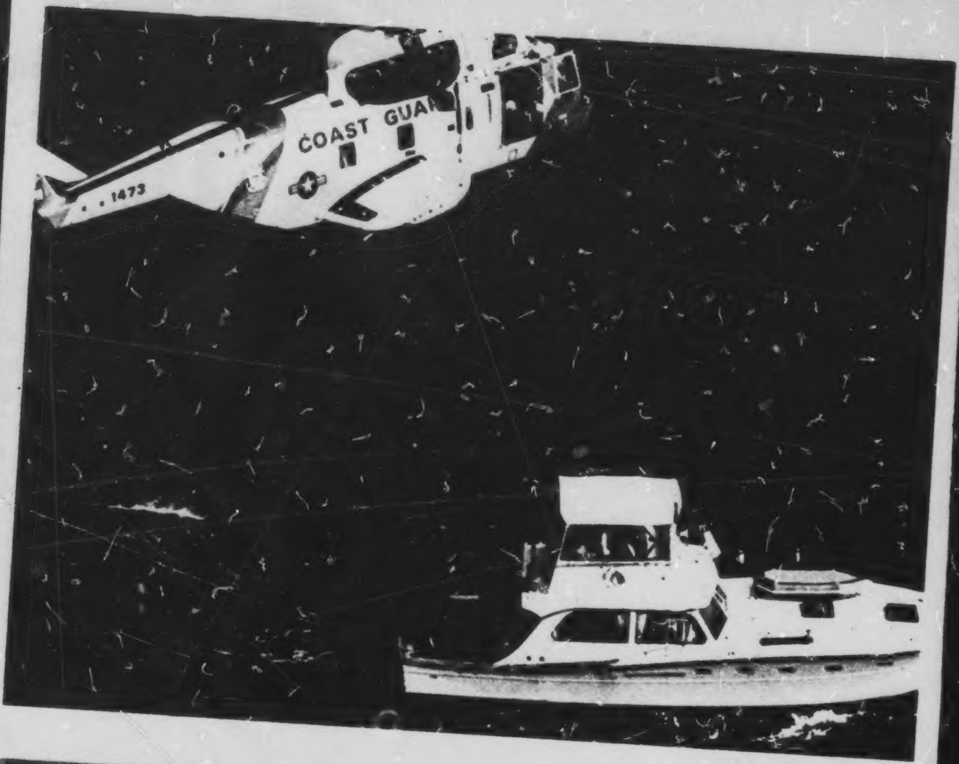
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CAREER

A CAREER IN THE COAST GUARD

THE COAST GUARD

"... an Armed Service and More."

... Coast Guard slogan

First of all, the United States Coast Guard is a military service. It serves the country's needs first and last.

In time of peace, the Coast Guard functions as a humanitarian arm of the Department of Transportation.

In time of war, it serves as a highly-specialized part of the United States Navy.

Any officer in a military service must be well trained and professionally qualified for leadership.

This is especially true in the Coast Guard because it is the smallest of the military services.

It's divided into small units of professionals, sometimes so small that command responsibility is often thrust upon officers early in their careers.

Producing officers who can meet this challenge is the function of the United States Coast Guard Academy. The Academy's sole purpose is to provide career officers for the United States Coast Guard.

The Coast Guard Academy graduate must serve a minimum of five years as a Coast Guard officer. Four years at the Academy and subsequent service as a Coast Guard officer provide many satisfactions to young people who enjoy variety and excitement, who are interested in technical and administrative work, and have an essentially idealistic and humanitarian outlook on life.

YOUR COAST GUARD CAREER

Your first experience as a newly commissioned Coast Guard officer will be at sea.

You may be assigned to one of the larger cutters for Fisheries patrol and Search and Rescue, or to one of the modern icebreakers involved in the Arctic and Antarctic, or perhaps to one of the large buoy tenders that service Aids to Navigation along the coasts and on the Great Lakes.

No matter where, you will find that a Coast Guard officer is given far greater responsibility at a far younger age than most of your civilian contemporaries.

POSTGRADUATE OPPORTUNITIES

Coast Guard officers are currently enrolled in the following advanced and specialized courses: (Availability varies with Coast Guard needs)

Academy Instructor Preparation
  Chemistry*
  Computer Science*
  Counseling*
  Economics*
  Humanities*
  Mathematics*
  Physics*
Administrative Science
  (Management)*
Administrative Science (Personnel)*
Aeronautical Engineering**
Air War College**
Armed Forces Staff College
Aviation Electronics Engineering**
Aviation Engineering
  Administration**
Avionics Engineering**

- Chemical Engineering*
- Civil Engineering*
- Communications Engineering/Management*
- Computer Systems Management*
- Electronics Engineering*
- Engineering Physics*
- Environmental Management*
- Financial Management*
- Industrial College of the Armed Forces
- Industrial Management***
- Instructional Technology*
- Law*
- Marine Engineering/Naval Architecture*
- Merchant Marine Industry Training
- National War College
- Naval War College
- Ocean Engineering*
- Oceanography***
- Operations Research/Systems Analysis*
- Port Safety Industry Training
- Public Administration*
- Public Affairs***
- Sloan Fellows*
- Transportation Management*

*Leads to an Advanced degree
**Flight school required first
***No more than one officer per year

After the initial tour of sea duty, a Coast Guard officer is encouraged to apply for postgraduate education or specialized training in the field of his or her choice.

The officer may apply for aviation training and, if selected, will be assigned to flight training under the direction of Coast Guard and Navy instructors. After earning your wings, you will then be assigned to one of the Coast Guard Air Stations. The particular graduate specialties available for choice are dictated by the needs of the Coast Guard.

The Coast Guard, in conducting its postgraduate education program, enrolls its officers in some of the leading colleges and universities throughout the country. Those so enrolled incur an additional active duty obligation.

Sixty percent of all Academy graduates are selected during their first five years of service to receive advanced education. Officers are selected for postgraduate education and specialized training on the basis of performance as an officer, professional qualifications, and scholastic standing at Academy.

Eighty-eight percent of our graduates elect to continue their careers as Coast Guard officers after they complete the required five years of service. They find a Coast Guard career a worthy challenge of their abilities, for command at sea and ashore is available early in their careers. They are challenged by the fact that the Coast Guard, unlike other services, has a vital job to perform in peacetime as well as in war.

There is a great deal of stimulus in the opportunity to travel, the variety of assignments, opportunities for specialization in different, exacting fields, plus the security and fringe benefits of an officer's life.

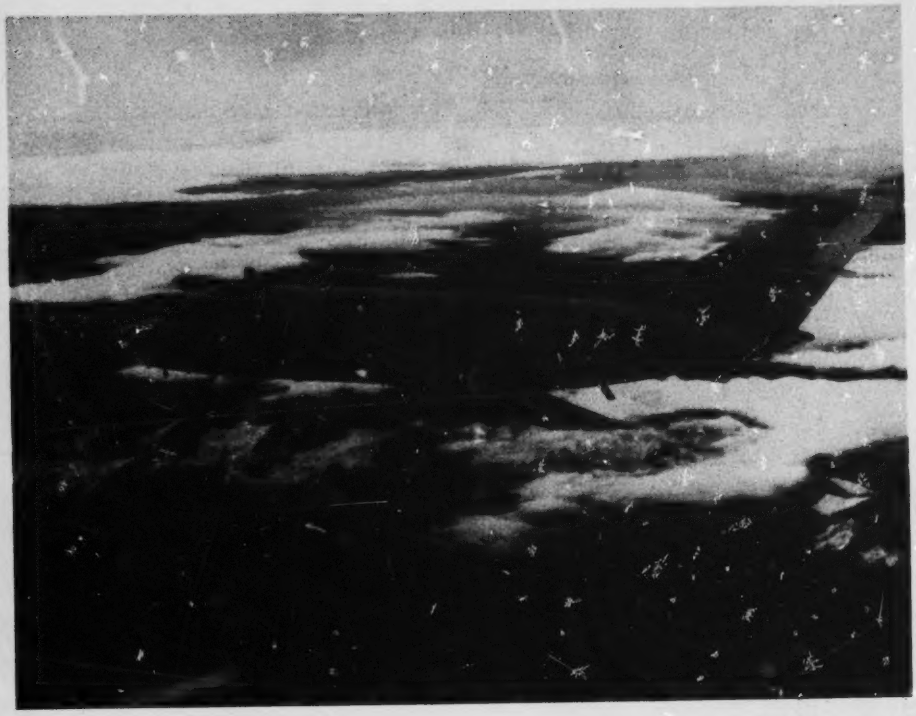
But service as a Coast Guard officer also means long periods at sea, with seven-day work weeks and long and irregular hours. It means responsibility for the safety of a ship and its crew. In certain situations, it means facing actual physical danger.

There is no question that the service is demanding; but, to the well-motivated, well-prepared young officer who thrives on the age-old challenge of men and ships against the sea, it is exciting and meaningful.

As you advance in rank and experience, you will be assigned to an administrative billet ashore. In this capacity, you begin to apply your education and experience to solving problems concerning water pollution, boating safety and law enforcement.

COAST GUARD

COAST GUARD



You may be involved in other fields, such as engineering, electronics, oceanography, naval architecture, finance, law, administration and aviation — depending on the specialized postgraduate experience you have received.

Your next assignment may well take you back to sea in command of a larger vessel. Future assignments and training will be directed toward one goal: to prepare you for the role of a senior officer, where your decisions will be of major importance.

Women officers who graduate from the Academy are called upon to contribute to the same important missions of the Coast Guard: marine environmental protection, law and treaty enforcement, boating safety, aids to navigation and life saving. Women officers do serve on board and command Coast Guard vessels and aircraft.

RANK, PAY AND ALLOWANCES

The rank structure of the Coast Guard commissioned officer corps is identical with that of the Navy. The table below indicates comparative ranks of Coast Guard commissioned officers with commissioned officers of the other uniformed services.

Pay and allowances of commissioned officers of the Coast Guard are the same as those for officers of equivalent rank in the Army, Navy, Marine Corps and Air Force.

Coast Guard officers advance at the same rate as officers in the other Armed Forces and may retire after 20 years' active service (of which at least 10 years must be served as a commissioned officer), at the discretion of the President of the United States, and upon completion of 30 years of active service, at the discretion of the Secretary of Transportation. Retirement at age 62 is compulsory. A retired officer receives retired pay at the rate of 50 percent of basic pay after 20 years' service, and for each year of service after 20 years, the amount is increased by 2½ percent, unless retired for physical disability. Coast Guard officers retired or separated because of physical disability receive, by law, the same benefits as officers of the Army, Navy, Marine Corps and Air Force.

Upon graduation a typical new ensign's salary is approximately $18,000, including subsistence allowance.

Army, Air Force and Marine Corps	Navy and Coast Guard
General, lieutenant general, major general	Admiral, vice admiral and rear admiral (upper half).
Brigadier general	Rear admiral (lower half) and commodore
Colonel	Captain
Lieutenant colonel	Commander
Major	Lieutenant commander
Captain	Lieutenant
First Lieutenant	Lieutenant (junior grade)
Second Lieutenant	Ensign

MISSIONS OF THE U.S. COAST GUARD

SEARCH AND RESCUE

The saving of life and property at sea has long been the most fundamental duty of the Coast Guard and the one in which its members take the most pride. Since 1790, the Coast Guard has saved thousands of lives and billions of dollars worth of property. Today, the Coast Guard maintains a large fleet of the most seaworthy vessels in the world, and strategically positioned air stations equipped with the finest aircraft, ranging from helicopters to giant patrol planes. The Coast Guard coordinates the use of this equipment by means of Operations Centers (OPC) in each district office, thereby achieving maximum efficiency.

MARITIME LAW ENFORCEMENT

In 1790, the Coast Guard was formed, under the name of Revenue Marine, specifically to protect federal revenue on foreign imports. Since that time, the Coast Guard has become the principal federal agency for maritime law enforcement and marine safety. The Coast Guard annually expends thousands of cutter days and flight hours enforcing America's Customs and Immigration laws, including smuggling and narcotics traffic, Fisheries Laws including the international treaties involved in the "200 mile limit", piracy incidents, including the investigation of maritime theft, and, laws governing the protection of endangered maritime mammals, such as the seal and whale.

In order to handle this vast area of responsibility, the Coast Guard maintains a fleet of vessels ranging from 41-foot patrol utility boats to the highly sophisticated 210 and 378-foot cutters, many equipped with flight decks to accommodate helicopters.

INTERNATIONAL ICE PATROL

Since the loss of **Titanic** in 1912, the Coast Guard has been charged with the duty of conducting the international ice patrol. An area of 45,000 square miles in the North Atlantic is patrolled. Through this area passes the world's heaviest shipping traffic. During the ice season, from April to July, many large bergs drift from the Arctic region into commercial shipping lanes. The Coast

Guard must know the position and number of these bergs and the information must be passed on to shipping. Formerly this was done by locating the southernmost bergs and following them with ships. However, since World War II, the Coast Guard has been able, by the use of radar, to conduct the patrol principally with aircraft. Coast Guard Research and Development is currently exploring new technology for iceberg detection and plotting.

AIDS TO NAVIGATION

The Coast Guard maintains more than 48,000 navigational aids — lighthouses, large navigation buoys, radio beacons, buoys, fog signals, etc. Electronics has provided many more sophisticated aids to navigation. One of the most important of these, LORAN, makes possible the rapid determination of latitude and longitude to air and surface craft. These aids prevent many shipwrecks and introduce a new element of safety to life at sea and in the air.

MARINE ENVIRONMENTAL PROTECTION

The Coast Guard has had a long history in protecting the marine environment from the damaging effects of pollution, through enforcement of various Federal laws. This mission has received new emphasis in recent years and is now one of the Coast Guard's major mission areas. Today Coast Guardsmen are involved in preventing pollution from vessels and port facilities, monitoring and removing oil and other pollutants from coastal waters, enforcing pollution laws and regulations and performing anti-pollution research and development. In addition, Coast Guard aircraft and surface vessels conduct surveillance and enforcement patrols in the harbor and coastal area as part of a continuing vigil to protect the quality of our waters and the oceans.

PORT SAFETY

Maintaining the safety and security of our ports and harbors has long been a role performed by the Coast Guard. As the hub of local shipping and marine commerce, ports play a major role in the nation's economy. Safeguarding these ports and waterways, port facilities and maritime personnel from accidental or intentional destruction or damage is a vital mission assigned exclusively to the United States Coast Guard. Experienced Coast Guard officers in major ports are designated as Captains of the Port. These officers manage a complex assortment of vessels and personnel engaged in harbor patrol, pier and terminal inspections and marine casualty and accident investigations in the ports. Coast Guard personnel are also engaged in the operation of Vessel Traffic Services in major ports. These advanced and automated systems are used to monitor harbor vessel traffic to prevent collisions and groundings in the ports and harbors and are manned continuously by Coast Guard personnel.

RECREATIONAL BOATING SAFETY

The Federal Boat Safety Act of 1971 charged the Coast Guard with significantly increased responsibilities relating to regulations and standards for recreational boats in the United States and the enforcement of such regulations and standards.

Boating Safety Offices are maintained throughout the 12 Coast Guard districts. These offices are responsible for assisting and informing the boating public about recreational boating requirements and enforcing pertinent boating safety regulations.

MERCHANT MARINE SAFETY

By authority of a large body of Federal statutes, the Coast Guard administers a comprehensive Merchant Marine safety program dealing with the safety of practically every vessel found in our waters. All of these duties, which are so important to this nation's welfare and the maintenance of a strong and healthy Merchant Marine, are administered, and to a great extent performed by Coast Guard officers in United States seaports. Some of these duties are performed by Coast Guard officers stationed in certain large foreign seaports, such as London, Rotterdam, Bremerhaven, Naples, Athens, and Yokohama.

ICEBREAKING

The U.S. Coast Guard operates all icebreakers flying the Stars and Stripes. These cutters make regular cruises to the Arctic and Antarctic on scientific, logistics and other types of missions. The Coast Guard also operates icebreakers in the Northeast and Great Lakes in support of their domestic icebreaking mission. On 23 February 1978, the CGC Polar Sea was commissioned at Seattle, Washington. The Polar Sea and her sister ship, the Polar Star, have many new marine engineering advances, such as automatic engine operations, controllable pitch propellers and a unique hull design. Both of these 399 foot cutters are designed to travel at a continuous three knots through six feet of ice and be able to ram through 21 feet of ice, if necessary.

DEFENSE READINESS

A member of this nation's Armed Forces, well known for its peacetime role, the Coast Guard has achieved an enviable record in our country's conflicts. In the first World War, it performed nobly, guarding convoys and doing harrowing rescue work. In World War II, the record of the Coast Guard was marked with heroism. The Coast Guard was there, on convoy duty, antisubmarine patrol, transport and combat landing craft operations, and in addition, effected the rescue of thousands of survivors. The Cutter CAMPBELL is credited with one of the most dramatic U-Boat sinkings of the war. Coast Guard vessels patrolled the coast of South Viet-Nam. Whether in peace or war, the Coast Guard exercises authority over our seaports, vital to the nation's security. Port Security units maintain constant scrutiny of all merchant shipping entering these ports and closely supervise all dockside activity.

A YEAR IN REVIEW

1983 was a typical year for the Coast Guard and serves as an example of the promise and progress the Coast Guard experiences over a 12 month period.

Coast Guard units had banner years in every operational mission area.

Since the formation of the National Narcotics Border Interdiction System in June, there has been a nationwide coordinated effort to suppress the drug flow. The Coast Guard has seized 164 vessels for narcotics trafficking and nearly 2.4 million pounds of marijuana.

The Department of Defense even got into the act, with Coast Guard help in the form of Tactical Law Enforcement Detachments. Cutters involved with the Haitian Migrant Interdiction Operation pulled double duty and contributed to the drug interdiction effort. Academy cadets on summer training cruises got more practical experience than in previous years. The cutter **Unimak** made two drug busts with cadets playing important roles during the seizures.

The Coast Guard stopped 92 illegal aliens from coming into the country, and arrested 438 illegal aliens trying to smuggle drugs.

In icier parts of the world, **Polar Star** highlighted Operation Deep Freeze '83 with a high-latitude circumnavigation of the Antarctic Continent.

The Coast Guard was also engaged in other maritime law enforcement duties, such as fisheries management. In addition to the Fishery Conservation and Management Act, the Coast Guard enforced the Lacey Act and other statutes regarding marine mammals, endangered species and marine sanctuaries.

Military exercises were an important part of the service's 1983 readiness program. The Coast Guard played an important role in the Joint Chiefs of Staff command post exercise program. Thirty-two cutters underwent refresher training at Navy commands. Thirty-six cutters engaged in joint military operations. Exercises such as Reforger, Solid Shield and Bright Star were held in strategic U.S. ports to strengthen our port security plans and train personnel in wartime port safety and security procedures.

The nation's skies and waterways are full of new Coast Guard aircraft and vessels.

Six new Long Range (C-130) airplanes were accepted, modified for Coast Guard use and delivered to Air Stations Kodiak and Clearwater. A second contract was awarded for five more C-130s, which should be flying in Coast Guard colors in the last half of 1984.

The C-130's speedy little brother, the new Medium Range Search (HU-25A) jet planes, now number three dozen, placed at seven air stations. The last HU25 contracted for was delivered in December.

Construction of the 270-foot Famous Class cutters continues. Two of the 270s have been delivered. **Bear** is in service and **Tampa** is ready for commissioning. The first four ships of the class are being built by Tacoma Boatbuilding Co. in Washington State, while the last nine will be built by R.E. Derecktor of Rhode Island.

Two 140-foot icebreaking tugs are being built by Bay City Marine Inc., of Tacoma, Washington. **Penobscot Bay** and **Thunder Bay** will join the white fleet in late 1984.

The last of the 30-foot Surf Rescue boats were delivered by Willard Company and the third Surface Effect Ship was delivered in June. At the Coast Guard Yard, three 95-footers were renovated, extending their service lives ten years, and the 207th and final 41-foot patrol boat got its hull wet, ending a construction project which began more than 11 years ago.

An Automated Large Navigation Buoy was deployed as a trial replacement for the manned **Nantucket** lightship. A prototype Loran C remote position moniter system is being tested on the LNB.

We've started converting 14,000 lighted minor aids to navigation to solar power. And we have deployed a prototype Exposed Location Buoy, powered by a combination of wave turbine and solar power.

The Coast Guard was also busy evaluating new ideas and hardware in 1983.

We tested several advanced marine vehicles, including the Small Waterplane Area Twin Hull Vessel. The Coast Guard also looked into the use of a British lighter-than-air ship. In more than 50 Navy/Coast Guard flights, the blimp was put through 163 flight hours performing mission tasks.

People remain the Coast Guard's most valuable resource. The changes we made tended to be to improve the performance and quality of life of the Coast Guard family.

One way was to develop a new Enlisted Marks System to replace the one 25 years old which ADM Gracey said had become "meaningless". The new system will evaluate an individual not against "the next guy" but against a set of servicewide standards for his or her particular rating.

To upgrade the quality of Coast Guardsmen, we began a program to rid the service of drug abusers. Officers and enlisted personnel throughout the service took part in urinalysis testing.

We looked at dependents and their needs. A Family Advocacy Program was formed in April to reduce the stresses experienced in Coast Guard families.

The whole Coast Guard Family deserves a pat on the back for a job "well done." But we have not forgotten the job ahead of us as we continue our proud work into 1984 and beyond.

CALENDAR
1985 - 1986

May	22	Wednesday	Summer Training Period Begins
	27	Monday	Memorial Day, Holiday
July	1	Monday	Class of 1989 Reports Aboard
	4	Thursday	Independence Day, Holiday
August	18	Sunday	Summer Training Period Ends
	19	Monday	Academic Year Begins, Fall Semester Begins
September	2	Monday	Labor Day, Holiday
	20-22	Fri-Sun	Parents Weekend
	27-29	Fri-Sun	Homecoming Weekend
October	14	Monday	Columbus Day, Holiday
November	11	Sunday	Veterans Day, Holiday
	28	Thursday	Thanksgiving Day, Holiday Weekend
December	20	Friday	Fall Semester Ends, Final Exams End Christmas Leave Begins
January	5	Sunday	Christmas Leave Ends
	6	Monday	Spring Semester Begins
February	17	Monday	Washington's Birthday, Holiday
March	14-23	Fri-Sun	Spring Leave
May	9	Friday	Spring Semester Ends, Final Exams End
	18	Sunday	Baccalaureate
	21	Wednesday	Commencement Exercises

TENTATIVE CALENDAR
1986 - 1987

May	21	Wednesday	Summer Training Period Begins
	26	Monday	Memorial Day, Holiday
June	30	Monday	Class of 1990 Reports Aboard
July	4	Friday	Independence Day, Holiday
August	17	Sunday	Summer Training Period Ends
	18	Monday	Academic Year Begins, Fall Semester Begins
September	1	Monday	Labor Day, Holiday
	12-14	Fri-Sun	Parents Weekend
October	3-5	Fri-Sun	Homecoming Weekend
	13	Monday	Columbus Day, Holiday
November	11	Monday	Veterans Day, Holiday
	27	Thursday	Thanksgiving Day, Holiday Weekend
December	19	Friday	Fall Semester Ends, Final Exams End Christmas Leave Begins
January	4	Sunday	Christmas Leave Ends
	5	Monday	Spring Semester Begins
February	16	Monday	Washington's Birthday, Holiday
March	13-22	Fri-Sun	Spring Leave
May	8	Friday	Spring Semester Ends, Final Exams End
	17	Sunday	Baccalaureate
	20	Wednesday	Commencement Exercises

CADET LIFE

THE BUILDING OF A LEADER

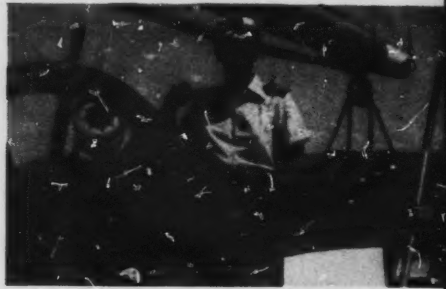
"Yes sir! No, sir! No excuse, sir!"

. . . Fourth Classman's answer to everything

One of the primary goals of the Academy is to develop in each graduate those leadership qualities and skills so necessary to assume the responsibilities and duties of commissioned Coast Guard officers.

The environment at the Academy is more than pure academics and the teaching of professional skills. It is a living laboratory designed to develop in each cadet an increased sense of honor, integrity, concern for fellow man and devotion to duty, which are expected of all commissioned officers.

During the first summer and academic year, you will be introduced to the honor concept, to barracks life, and to living and performing in a very regulated, supervised and strenuous environment. As you advance in rank in the Regiment, your opportunities to lead cadets expand. Of course, with the opportunity and authority come added responsibilities. Your formal training in leadership will begin with the course entitled "Human Behavior". In addition to this course, intense instruction in leadership is given to all cadets. You may be among those cadets chosen to participate in the summer cadre program. During this program, you will be the leader and teacher for the new entering class of cadets, and have the opportunity to put into practice those skills and concepts presented in class.



Prior to commissioning, you will also take the course "Organizational Behavior", which stresses the role of the individual, group, organization and leadership in the total management process. All cadets also take a course entitled "Legal Systems", which stresses the fundamental nature of law and essential professional training in military justice and non-judicial punishment. These two courses round out the formal classroom training to develop more fully necessary leadership skills.

In addition to the formal classroom work, leadership programs are conducted by the commissioned company officers. During these programs, case studies are discussed with officers who have worked in the Coast Guard and have firsthand knowledge of the challenges and responsibilities that await you upon graduation. The summer training cruises provide extensive practical experience to cadets as they work in roles of petty officers or officers.

During your four years, you will also participate in varsity, junior varsity, inter-company sports, or other extra-curricular programs. These activities offer another opportunity for displaying and developing sound leadership traits. The entire four years will be spent in a military environment—one of accountability for your own actions, as well as for the cadets under your command. The total Academy experience is one which instills those traits and skills so necessary to be a leader in today's Coast Guard, and in a rapidly changing, technically oriented society.

Cadet life is tough; make no mistake about it.

In many ways, from appearance and academics to sports and social activities, the Coast Guard Academy resembles a small New England college.

But there the resemblance ends. The Academy is a military academy where you and every cadet are subject to the Uniform Code of Military Justice, as well as an administrative disciplinary system prescribed in Cadet Regulations.

UNITED STATES
COAST GUARD

The nature of any military organization requires that each individual and each unit be responsive to orders from above. This is known as the Chain of Command, and following the Chain of Command is absolutely essential to the smooth operational efficiency of all military organizations.

All phases of your cadet life are governed by the Cadet Regulations and the Procedure and Equipment Manual. All cadets are required to be familiar with the Regulations and Manual and to observe them in letter and spirit.

The discipline inherent in Academy life trains you for effective leadership and obedience to authority. You learn the meaning and spirit of leadership from both the point of view of receiving orders and giving them.

At the top of the Chain of Command is the Superintendent. Then, the Commandant of Cadets, whose position is similar to Dean of Students. Under him are company officers, who are Coast Guard officers. Each company, consisting of approximately 100 cadets, has its own company officer. They serve as disciplinarians, counselors and administrative assistants to the Commandant of Cadets.

HONOR CONCEPT

Underlying the overall concept of military discipline is the Honor Concept; a basic, vital force in Cadet life. Cadets at the Academy are men and women of honor who neither lie, cheat, steal, nor attempt to deceive.

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THE CORPS OF CADETS

When you enter the Academy, you become a member of the Corps of Cadets, which provides you the opportunity to develop the qualities of leadership essential to a commissioned officer.

The Corps of Cadets is, to a large degree, self-governing, and the cadets are given a maximum of responsibility and authority. The Regimental Commander, under the direction of the Commandant of Cadets, administers the daily routine of inspections, formations, watches, military appearance, and performance of the Corps of Cadets.

Experience in military command is gained daily by the three upper classes in the exercise of their individual responsibilities within the Regiment. Additional experience in leadership is gained during summer cruises: upperclassmen serve as officer of the deck, engineer officer of the watch and master-at-arms. With minimum supervision from commissioned officers, they participate in the operation of the cruise vessels.

Unlike students at colleges, Coast Guard cadets must participate in a program of military training and discipline administered by upper classmen and officers. Prompt obedience to orders is required and cadets are subject at all times to the military code of justice.

The way cadets budget their time is extremely important. In addition to maintaining satisfactory grades in all subjects, they must demonstrate by their conduct and participation in Cadet Corps activities that they have the qualities of character and leadership required of future officers.

Obviously, the Coast Guard Academy is not for everyone. Many highly qualified young men and women are well advised to go elsewhere for higher education. If you are thinking of trying for appointment, you should be honest with yourself concerning your motives and your abilities to undertake a program which includes rigorous physical conditioning and strenuous discipline.

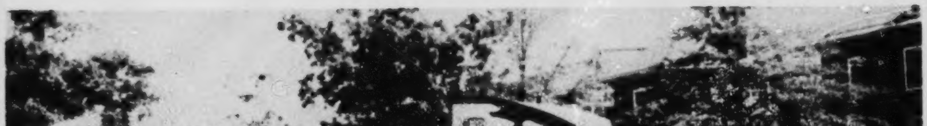
FOUR CLASS SYSTEM

The Academy provides a four-year program of training and education. The Four Class system, which increases your authority and responsibilities each year, is the basis for a pyramidal chain of command.

The first of these years, Fourth Class or "Swab" year, is probably the most difficult. You carry a full academic load, undergo intensive military indoctrination, and you learn to follow orders from commissioned officers and upperclassmen.

There are a number of rules for behavior which help you make the transition from civilian to military life. This teaches self-control, discipline and respect for authority, so essential to a successful career as an officer. To make this transition as effective as possible, you report to the Academy seven weeks prior to the start of the Fall Academic Semester.

Each class thereafter (3/C, 2/C, 1/C) is given increased authority and command responsibility every year, eventually, one member of the Fourth Class, your class, will become Regimental Commander.



WOMEN AT THE COAST GUARD ACADEMY

Women undergo the same training as their male counterparts, with the only differences occurring in the physical education programs. The academic curriculum is the same, as are the leadership and professional training.

Women are fully integrated into the cadet corps. Women's hair length is short, off the collar, to facilitate easy care. Cosmetics and jewelry are limited to the essentials (wrist watches, small, gold post earrings for pierced ears, and minimal make-up). In all other respects, a young woman's role as a cadet is similar to a man's.

CADET PAY AND ALLOWANCES

A cadet in the Coast Guard receives a monthly basic pay provided by law in the amount of $480.00.

A cadet's pay, although taxable, is not a wage or salary at least not in the normal sense; it is money furnished by the government for uniforms, equipment, textbooks, and other expenses incidental to education and training. Cadet pay and allowances covers all the cadet's expenses during the four years and is disbursed and expended as directed by the Superintendent. Any funds remaining in a cadet's account are given to the cadet upon graduation.

Cadets receive the following amounts each month in a checking account for their personal use: first year, $80; second year, $150; third year, $210; fourth year, $260.

Benefits: Medical and dental care, travel allowances, and all other benefits of an Armed Forces member are provided.

A DAY IN THE LIFE OF A CADET

"Guess who I met coming out of the library this evening? Myself."

. . . Third Classman to roommate

It's a full life.

Your typical day begins at the crack of dawn, 6 A.M. with reveille. You prepare for daily personnel inspection and breakfast. Daily inspections assure that your room is clean and orderly.

Morning classes begin at 7:55 and continue until 11:45. Personnel inspection is held at the noon formation. Lunch is next, followed by afternoon classes from 12:50 to 3:35. The hours between 3:35 and 6:45 P.M. are spent in intramural or varsity sports, extracurricular activities and extra classes of academic instruction for those cadets who need additional help.

Dinner is at 6:45. Time between 7:00 and 8:00 is set aside for personal use, during which cadets may study or attend to personal matters. Study time is set between 7:00 and 10:00. Taps is at 10:00 but cadets may continue to study until midnight.

Saturday mornings are spent in professional training and indoctrination. During the fall and spring months, formal regimental parades and inspections are held on Friday afternoons.

Liberty, which means permission to leave the Academy grounds, is granted on Saturday afternoon and evening, and again on Sunday. First Classmen are given liberty on Wednesday afternoons at 4:00 and all but fourth classmen on Friday afternoons at 4:00.

Provision is made to attend religious services of your faith. Catholic and Protestant chaplains provide the opportunity for Christian worship and study. Jewish cadets and those from other religious groups are assisted in locating worship resources in the civilian community. Attendance at religious services is voluntary.

All cadets live on campus at the Academy. You share a room with another cadet and you are responsible for its cleanliness and neatness.

Not every day in the life of a cadet is spent at the Academy. During the year a cadet is given ample opportunity to leave the Academy, as shown by the calendar on page 26.

SCHEDULE OF ACTIVITIES

FIRST YEAR
(Fourth Class)

Summer Program - Entrance Orientation, and Short Cruise - 7 weeks
Fall Academic Semester - 15 weeks
Examinations - 1½ weeks
Christmas Leave - 2 weeks
Spring Academic Semester - 15 weeks
Spring Leave - 1 week
Examinations - 1½ weeks
Graduation Activities - 1 week

SECOND YEAR
(Third Class)

Summer Program - Long Cruise - 11 weeks
Leave - 3 weeks
Fall Academic Semester - 15 weeks
Examinations - 1½ weeks
Christmas Leave - 2 weeks
Spring Academic Semester - 15 weeks
Spring Leave - 1 week
Examinations - 1½ weeks
Graduation Activities - 1 week

THIRD YEAR
(Second Class)

Summer Program - Training at Shore installations - 11 weeks
Leave - 3 weeks
Fall Academic Semester - 15 weeks
Examinations - 1½ weeks
Christmas Leave - 2 weeks
Spring Academic Semester - 15 weeks
Spring Leave - 1 week
Examinations - 1½ weeks
Graduation Activities - 1 week

FOURTH YEAR
(First Class)

Summer Program - Long Cruise and Surface Operations Program - 11 weeks
Leave - 3 weeks
Fall Academic Semester - 15 weeks
Examinations - 1½ weeks
Christmas Leave - 2 weeks
Spring Academic Semester - 15 weeks
Spring Leave - 1 week
Examinations - 1½ weeks
Graduation Activities - 1 week

Note: Times devoted to cruises, orientation, training at shore installations, and leave are subject to slight variations.

THE COAST GUARD ACADEMY FOUNDATION

The Coast Guard Academy Foundation at New London, Connecticut is a non-profit tax exempt foundation dedicated to contributing to the growth and development of the United States Coast Guard Academy.

Founded in 1969 as a permanent body, the Foundation seeks to identify and to cultivate, nationwide, sources of funds that will provide for the Academy what is sometimes called a "margin for excellence".

The Foundation concentrates its activities on those areas in which incremental support over government funds can make a marked quality difference for those for which the government, either for lack of funds or for policy reasons, simply cannot provide.

Current areas of Foundation sponsorship fall into six categories, each of which includes immediate as well as long-term needs: academic enrichment; transportation; recreational facilities, waterfront development; public related programs and facilities; and athletics.

The Foundation seeks to complement the educational, professional and military aspects of cadet training by providing social, recreational, cultural, and environmental opportunities for the cadets.

To this end, the Academy Foundation bought and is operating 230 acres of former farm land in Stonington, Connecticut, 15 miles away from the Academy. The first step the Foundation took in the development of this beautiful rural land was the construction of SHIPMATE LODGE. A rugby field and picnic areas, an addition to the Lodge to make it more usable by larger gatherings of cadets, a skating pond, hiking trails, a basketball court, and platform tennis court have also been added. This property provides cadets with an excellent facility, away from the Academy's fast paced routine, for off-duty education, relaxation, and recreation. The headquarters for the Academy Foundation is also located on this property.

PROFESSIONAL AND MILITARY TRAINING

". . . when the Eagle's under full sail, and the wind's crackling every line, you begin to feel you're part of history, and you wouldn't trade places with anyone in the world. . . ."

. . . A Cadet's letter to his parents after a summer cruise.

Professional and military training does not end with the academic courses and Saturday morning orientation period. Between Commencement Day and Labor Day, with time out for a few weeks leave, you will spend your summer putting what you have learned during the academic year to practical use.

You'll take training cruises to many of the historic ports of the world, a fabulous experience not many young people ever get in their college years.

You'll get professional training at various Service Training Centers and work with operating units to enhance your professional competence. You'll probably form contacts with men and women in other branches of the Armed Forces.

One of the training ships making summer practice cruises is the three-masted auxiliary barque, Eagle.

The Eagle has a diesel engine, electricity, evaporators, air conditioning, the latest electronic devices for navigation and operations, and all the conveniences of modern ships.

Also participating in training cruises are several of the larger Coast Guard cutters. Cadets augment the regularly assigned crews and participate in all of the missions of the cutter — from search and rescue to the enforcement of drug and fisheries laws. You will stand watches on the bridge, in the engineroom, and in the combat information center and will have an opportunity to qualify to fill various positions held by crewmembers. You'll receive hands-on training in gunnery, firefighting procedures, and navigation. As a First Classman you will be filling the role of a Junior Officer afloat, in preparation for your duties after graduation. As a Third Classman you will be filling the role of a junior Petty Officer.

During your first summer as a Fourth Classman, known as Swab Summer, the emphasis is on indoctrination. In a sense, it's similar to "boot camp". You take courses in all phases of military activity. You will be required to pass a physical fitness and swimming test. If you are not in shape when you arrive for "swab summer", you will be in short order. Heavy stress is placed on physical fitness and competitive sports. The highlight of this first summer is a one-week cruise aboard the Eagle.

As a Third Classman, your second summer will be a long cruise, aboard cutters or the Eagle (about ten weeks), which may take you to faraway places.

During your third summer, you are trained in seamanship, navigation, damage control and fire-fighting procedures. You also may help in the training of the incoming fourth class "swabs," or participate in Boys State and Girls State Programs throughout the country. In addition, your summer may include an assignment to an operational Coast Guard Search and Rescue Station.

Two weeks of Coast Guard aviation orientation are highlights of the Second Class Summer Program.

Cadets study basic theory of flight and operational employment of aircraft. You have an opportunity to actually handle the controls, navigate aircraft and experience firsthand the problems faced by pilots.

During the First Class Summer Program, your senior year summer, you take a five week cruise. You also spend five weeks at various seagoing Coast Guard units, participating in actual Coast Guard operations.

PHYSICAL EDUCATION

The Coast Guard Academy Mission begins with the expression "To graduate young men and women with sound bodies, stout heart, and alert minds. . ." The Academy's physical education program is designed to ensure that cadets meet this "sound body and stout heart" criterion.

The objectives of the physical education program are achieved with three requirements: that all cadets satisfy established physical fitness standards; that all cadets pursue a comprehensive academic program in physical education; and that all cadets participate in intercompany and/or intercollegiate sports competition.

All cadets are required to pass an entrance physical fitness test and demonstrate minimum swimming skills. Thereafter, cadets must pass a standard physical fitness test semiannually.

Every cadet, as part of his or

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her curriculum, is required to take a physical education course, covering two subject areas, each semester. Courses are offered in developmental, carryover, and elective type subjects. Subject areas are listed below:

Survival Swimming
Advanced Swimming
Lifesaving
Foundations of Physical Education
Fundamentals of Conditioning
Gymnastics
Personal Defense I
Personal Defense II
First Aid
Cardio Pulmonary Resuscitation
Golf
Tennis/Racketball

ATHLETIC PROGRAM

In addition to the required physical education classes, Cadets are required to participate in either intramural or intercollegiate athletics in two out of the three sporting seasons.

An extensive program of intramural sports is carried out during recreation hours.

For men, there is a full slate of intercollegiate sports from which to pick, while, with the admission of women, female cadets are being offered intercollegiate team sports in volleyball, basketball, softball, crew, cross country and gymnastics.

Women also compete against other schools on integrated soccer, sailing, swimming, rifle, pistol, tennis, and indoor and outdoor track teams.

The Academy, as a member of the NCAA, the New England Intercollegiate Athletic Association, and the Eastern College Athletic Conference, competes with other member colleges across the country.

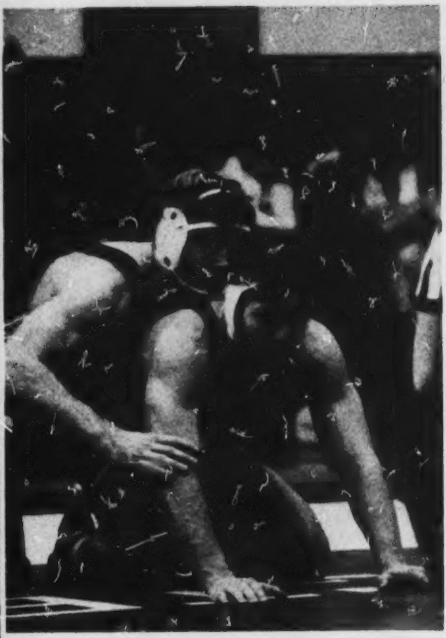
Football remains one of the most popular sports at the Academy, and on five Saturday afternoons each fall the cheers of the Cadet Corps can be heard ringing through colorful Cadet Memorial Field.

Sailing is also an extremely popular sport in both the fall and the spring. As a member of the Intercollegiate Yacht Racing Association of North America, and the New England Intercollegiate Sailing Association, the Academy sails regularly against top national and international collegiate dinghy and sloop sailors. The intercollegiate sailing fleet consists of 34 Flying Junior dinghys, 20 Lasers, 8 Windsurfers, and 7 Shields 30′ sloops. As a member of the United States Yacht Racing Union and the Eastern Connecticut Yacht Racing Association, the Academy sails yachts ranging in size from the six J-24's to the four 44′ yawls (and several custom Ocean Racing yachts) in local and regional regattas. The new sailing center now gives the Academy the finest collegiate sailing facility in New England.

Other popular sports on the fall schedule are soccer, cross-country, and tennis.

During the winter months, Roland Hall, the academy's spacious field house and one of the finest facilities of its kind in the country, is the scene of exciting competition in basketball, wrestling, swimming, indoor track and gymnastics. Rifle and pistol are also included in the winter schedule of sports.

In the spring, the sports scene shifts to the outdoors where Cadets complete in sailing, track, golf, crew and baseball.



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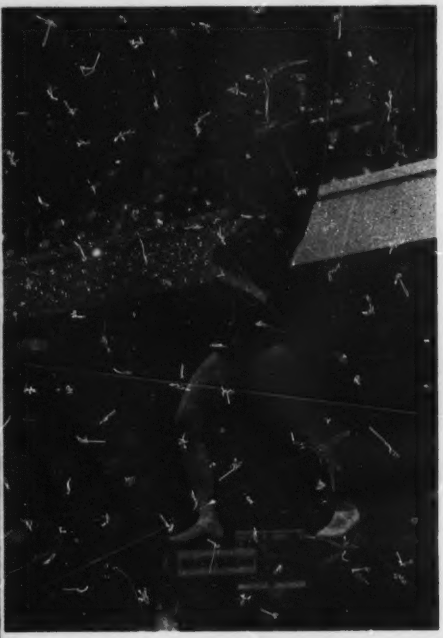

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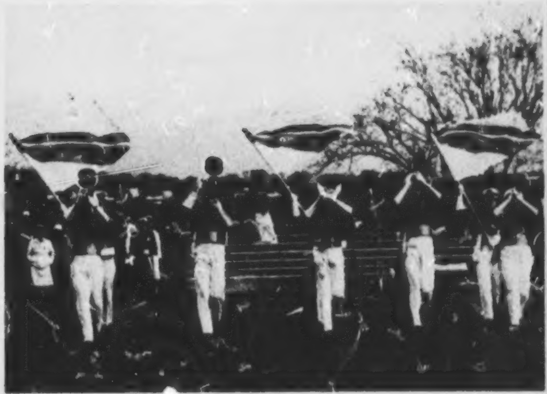


EXTRACURRICULAR ACTIVITIES

Formal and informal dances, parties, movies and other social functions are scheduled regularly. Cadets will find an outlet for their musical talents in a strong musical activities program which includes: the Cadet Protestant and Catholic Choirs, the Coast Guard Academy Idlers and Icebreakers, male and female singing groups respectively, which have appeared on national television; the Windjammers Drum and Bugle Corps, the Cadet Jazz Ensemble and several small groups playing contemporary music. The Windjammers are made up instrumentally of bugles, a percussion section and a flag line. They play at half-time ceremonies for the Academy Bear's football games and have also performed at various professional football games in past years. A cadet who plays a musical instrument may bring it to the Academy.

The Hockey Club, Ski Club, Speech and Debate Club, Outdoor Club, Political Affairs Association, Racquetball Club, and Officer's Christian Fellowship are typical of over twenty extracurricular organizations active at the Academy.

Howling Gale, the Cadet magazine, and Tide Rips, the Academy annual yearbook, offer experience and pleasure to cadets with interests in writing.

In choosing a college, it is important to ask questions about its curriculum, admission procedure and requirements. Listed below are frequently asked questions about the Coast Guard Academy.

QUESTIONS AND ANSWERS

Q. Who can apply to the Academy?

A. Any man or woman who on July 1 of the year of admission is a citizen of the United States, unmarried, at least 17 years of age but not have reached their 22nd birthday, and is of good moral character may apply to the Academy.

Q. Do I need a nomination from my congressman or senator?

A. No. The U.S. Coast Guard Academy is the only federal service academy which does not have a political nomination or appointment. There are no geographical quotas involved. Admission is strictly on a nationwide competition.

Q. How many people apply? How many are accepted?

A.. Each year the Academy receives between 6000 and 7000 applications from men and women around the nation. The size of the group that finally enters the Academy is approximately 300, making the Coast Guard Academy one of the most selective colleges in the country. Don't be discouraged by the numbers; only about 3000 students complete all the required application forms. Of those that meet our minimum requirements, about 550 are offered appointments. About 45% decline and go to other colleges or universities or service academies. Therefore, if you meet our minimum requirements and complete all forms, your chances of receiving an appointment are about one out of five.

Q. Can women attend the Academy?

A. Yes, women have been at the Academy since June 1976.

Q. What is the tuition?

A. Those people selected to attend the Academy receive, in essence, a four year scholarship. Room, board, and tuition are free. In addition, each cadet receives an allowance of approximately $5,760 per year. A $500 acceptance fee is the only funds required. (This fee can be waived in exceptional cases by the Director of Admissions.)

Q. I am also applying for the other service academies and have been scheduled for a medical examination. Do I need to take another medical examination for the Coast Guard Academy?

A. No, medical examinations for any officer program in any Service are coordinated by the Department of Defense Medical Examination Review Board (DODMERB) located in Colorado. The same medical exam may be used for all service academies and ROTC programs.

Q. What is my obligation to serve after graduation?

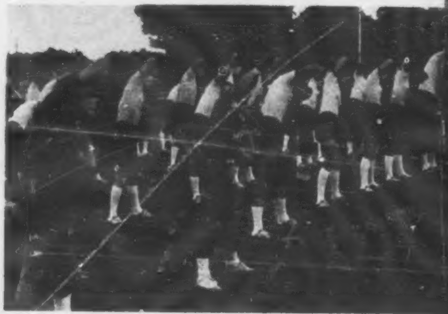
A. A cadet agrees to serve five years as a commissioned officer in the U.S. Coast Guard after graduation from the Academy. Upon graduation, you will be commissioned as an Ensign and receive a bachelor of science degree.

Q. Does the Coast Guard have an aviation program?

A. Yes, fixed-wing and rotary-wing aircraft are used extensively in search and rescue mission, law enforcement patrols, and on the International Ice Patrols. Cadets receive two weeks flight training during the summer of the 2/C (junior) year at the Academy. About 15% of the graduating class eventually go to flight school and become Coast Guard pilots.

Q. I didn't play any sports in high school. Will this hinder my chances for an appointment?

A. Playing sports increases your chances of doing well in the competition, as it demonstrates an ability to handle the very physically demanding program you will face at the Academy. Your participation



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A. Our retention rate varies between fifty and sixty percent.

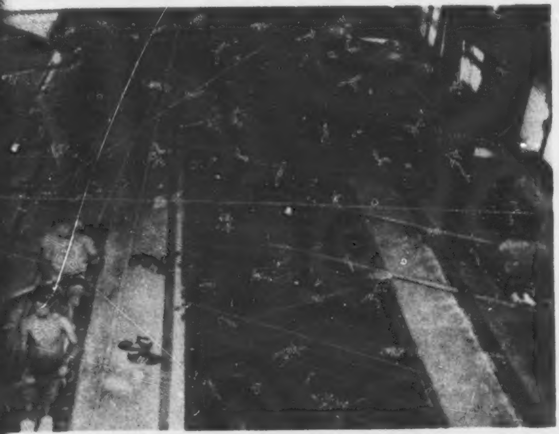
Q. I heard stories about your boot camp, "swab summer". How tough is it really?

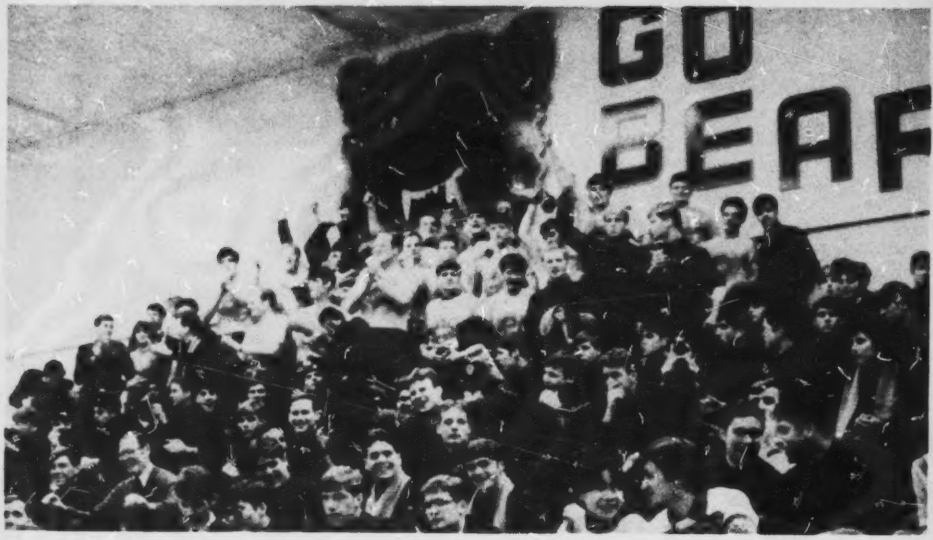
A. We can show you our films, you can talk to freshmen who just finished the program, but until you experience swab summer personally you won't know what it is like.

It is not a summer camp. It is physically demanding, mentally challenging, and an emotional shock. Like most "swabs" you will probably want to quit the first day, which will be the longest day of your life. The standards are high; the goal is to make excellence a habit, and prepare the "Swabs" to take their places as members of the Corps of Cadets at the beginning of the academic year.

Q. What kind of social life do cadets have?

A. The Academy is not a "party" college. For underclassmen, liberty is restricted to weekends, and they must earn overnight privileges. Alcohol is not allowed in the dormitory. There are many opportunities to get involved in extracurricular activities.





Formal and informal dances, parties and other social functions are scheduled.

Q. Will I have a chance to sail aboard the tall ship EAGLE?

A. Yes, every cadet has at least six to eleven weeks sailing aboard the EAGLE.

Q. How do I apply for the Academy?

A. Read the "Admissions Requirements" section of this catalog. If you meet all the requirements, complete the application in the back of this book and mail it to the Academy.

Q. I am a junior in high school. When should I send in my application?

A. The application may be submitted from June 1 of your junior year through December 15 of your senior year.

Q. What if I don't receive an appointment this year. Do many students go to college prior to competing for the Academy?

A. Approximately seventeen percent of the entering class has had one or more semesters of college. In one particular case, a student applied for the classes of 1980, 1981, 1982 and finally made it in 1983.

Q. Where can I find answers to other questions I have about the Academy?

A. If you call the Admissions Office, a counselor will be happy to talk to you about the Academy. The number is (203) 444-8501. Or write:

Director of Admissions
U.S. Coast Guard Academy
New London, CT 06320.

THE COURSES

ACADEMIC DEPARTMENTS

"There's a spirit here that you seldom find elsewhere. I think you could call it a dedication to excellence. . . ."

Excerpts from a speech by a faculty member, U.S. Coast Guard Academy

The Academic Division consists of eight departments under the direction and supervision of the Dean of Academics:

Engineering, Science, Computer Science, Mathematics, Nautical Science and Law, Economics and Management, Humanities, and Physical Education.

These departments are staffed by Coast Guard officers and civilian faculty members. The faculty of the Academy is unique. Collectively it not only possesses the skills of the traditional college faculty, but also possesses the special skills needed for the training of cadets in the military and seagoing aspects for their careers as Coast Guard officers.

The courses presented by these experienced educators assure Academy graduates of a broad foundation in engineering, in physical science, in the liberal arts and social sciences, and in those professional studies which specifically prepare graduates for their careers in the Coast Guard.

COAST GUARD ACADEMY LIBRARY

The library, together with the U.S. Coast Guard Museum, is housed in Waesche Hall, which was opened in 1973, memorializing Admiral Russell Randolph Waesche, an eminent Commandant of the Coast Guard during World War II. Modern in style and attractively furnished, the library provides ample reading and study space for cadets and faculty.

The library's collections number close to 150,000 volumes, 885 current periodical subscriptions, and more than 40,000 units of microfiche and microfilm. In addition an Audio-Visual Study Center, with a collection of around 1,500 video cassettes, recordings, and other media, provides a comfortable environment for the use of course-related and recreational A-V materials. A partial depository for U.S. government publications, the library maintains a separate collection of federal documents and law materials.

Subjects represented in the library's holdings reflect the strengths of the Academy curriculum, with particular emphasis on marine studies and engineering. Specialized indexes are maintained to provide access to technical as well as to more general journals. Professional staff offer bibliographic instruction in the use of the library as needed and provide reference service six days a week, including five evenings. They also perform online literature searches for faculty and eligible upperclass cadets. Reciprocal agreements with nearby libraries considerably expand the material available to cadets and faculty. To obtain needed material not held locally, the interlibrary loan service taps a national database of holdings in other libraries.

MAJOR COURSES OF INSTRUCTION

The United States Coast Guard Academy recognizes that the majority of Academy graduates must have an engineering or scientific background to meet the needs of the Coast Guard. Present goals are to graduate at least eighty percent in the technical majors: engineering, sciences, and mathematics.

The Academy academic program, responsive to both the needs of the Coast Guard and the interests of the Corps of Cadets, currently consists of the following majors:

Civil Engineering
Electrical Engineering
Marine Engineering
Applied Science
Mathematical and Computer Sciences
Government
Management

During the first summer all cadets are assigned to an Academic Advisor in their major interest area. Enrollment in a specific major is sometimes limited. When such a condition arises, selection of those students desiring admittance into a major is made by the Dean of Academics based largely on the student's academic performance of the past. Throughout the four-year academic program the majors normally require a cadet to pass a core program of 26 courses in addition to those required by the major.

As cadets progress in their four-year sequences, they may select additional electives which allow them to pursue even further individual academic interests.

Each major provides a sound undergraduate education in a field of interest to the Coast Guard and prepares the cadet to assume initial duties as a junior officer.

Upon graduation, the cadet is awarded the degree of Bachelor of Science, and, if physically qualified, is commissioned by the President of the United States as an ensign in the Coast Guard.

Applicants should be aware that an extensive postgraduate opportunity exists within the Coast Guard after two to three years of active service as a commissioned officer. Postgraduate training is available in a wide variety of fields, based on the needs of the service.

VALIDATION

Validation is the process through which you can receive credit for fulfilling the requirements of specific courses in the Academy curriculum before entering the Academy.

Each course validated permits you to substitute another course in your area of interest or a free elective.

If you have performed satisfactorily on College Entrance Examination Board Advanced Placement Tests and/or have satisfactorily completed (1) courses at other institutions of higher learning or (2) advanced or college-level courses in high school, you may be able to validate courses. Validation is based on a local screening process by each department.

Through the Academy's validation program you may tailor your academic programs to your level of achievement. This gives you the opportunity to enrich your undergraduate education through the proper use of electives made available by validation. For these reasons you are urged to validate.

HONORS PLACEMENT

The Honors Placement program permits you to reach your highest level of academic achievement by enrolling in the honors (advanced) sections of certain courses. Honors programs are designed and administered by the individual departments and are presently available in mathematics and sciences.

WHAT CLASSES ARE LIKE

The methods of instruction at the Academy are quite varied. Usually classes for core courses consist of 18-22 students; major required courses have as few as 12. Occasionally the members of an entire class will meet together for general lectures. In order to supplement its classroom instruction, the Academy faculty makes considerable use of pertinent audiovisual aids, laboratory exercises, the computer center and library resources.

The normal periods of instruction are 50 to 75 minutes, with the lab periods extending from 2 to 3 hours, depending upon the subject. On Mondays, Wednesdays and Fridays there are four 50-minute morning periods and three 50-minute afternoon periods. The remainder of the morning is used for 50-minute exam periods or military drill.

INDIVIDUAL ASSISTANCE AND ADVISING

The Academy has an extensive program of individual assistance and counseling to help each student achieve academic success. Each cadet is assigned an academic advisor in his or her major to assist the cadet in laying out his or her academic program and to counsel the student as necessary.

Additional instruction is available whenever required. Academic assistance and guidance on an individual basis are provided by company officers and instructors.

Counseling is available for the cadet to assist in understanding personal, vocational, educational and spiritual concerns. It is available at all times for the cadet to relate his or her concerns or problems which the individual feels need to be resolved. Counseling, which is completely confidential, is provided by two full-time professional counselors and the academy's two Chaplains. Psychotherapy and counseling are also available through the Academy psychiatrist, who is a part of the Health Services Division.

GRADES AND HONORS LIST

The assigned grades for each course are based on the cadet's daily work over the 16-week semester and the individual's score on the final examination.

At mid-semester and at the end of each term a Grade Point Average is determined with H=4, A=4, B+=3.3, B=3, C+=2.3, C=2, D=1, and F=0. A cadet must obtain at least 2.0 Cumulative Grade Point Average to graduate.

Cadets are encourage to strive for academic excellence by the prospect of attaining the Honors List and of receiving the additional privileges granted in conjunction with that achievement.

"Honors" are awarded to cadets who achieve not less than a 3.15 Grade Point Average, with no mark in any 3-hour course less than 2.0 (C).

STANDARDS OF PERFORMANCE

All cadets are expected to maintain a satisfactory academic performance level. The minimum level acceptable level is a Cumulative Grade Point Average of 2.00. Cadets falling below this minimum standard are, at the end of the semester, placed in a status commensurate with the performance level.

The status of Academic Warning states that the cadet is in difficulty; that his or her performance is below what is expected and requires immediate and definite improvement.

The status of Academic Probation informs the cadet that he or she has failed academically, but has one semester to recover. He or she is relieved from any requirement to participate in inter-collegiate or inter-company sports. It is recommended that extra-curricular activities be curtailed and that every effort be made by the cadet to improve his or her academic record.

The status of Academic Deficiency informs the cadet that he or she has failed academically and will normally be disenrolled from the Academy.

ACADEMY SCHOLARS PROGRAM

The Academy Scholars Program offers a special intellectual challenge to cadets in their fourth year who have demonstrated outstanding scholastic abilities.

Those selected are given special recognition and academic privileges which enable them to pursue, under faculty guidance, individually selected projects and special research.

Among projects completed are "Microprocessor Controlled Loran-C Receiver," "An Adaptive Controller Ship's Autopilot," and "Investigation of Automatic Software Systems for Hardware Trouble Shooting."

GRADUATION REQUIREMENTS

In order to satisfy the requirements for the award of the Bachelor of Science degree a cadet must:

1. Satisfactorily complete all 26 core courses and meet the minimum swimming standards.
2. Satisfactorily complete a minimum of 126 credit hours, excluding Physical Education courses, while at the Academy.
3. Attain a Cumulative Grade Point Average of 2.00 or better.
4. Be in residence at the Academy for at least four academic years.
5. Maintain a high sense of integrity.

HEDRICK FELLOWSHIP

The sound of a 21-gun salute echoing across the reservation on an October morning in 1983 marked the presence of a very distinguished visitor: former President of the United States and Hedrick Fellow, Gerald R. Ford. President Ford spent two days at the Coast Guard Academy where he presented a major foreign policy address and met informally with cadets and faculty to discuss a wide range of political and economics issues. Many of the questions directed to the former President sought his reaction to either President Reagan's handling of the then recent tragedy in Beirut or his decision to intervene in Grenada.

This type of dialogue with a major public policy figure is precisely the kind of stimulating academic experience the Hedrick Fellowship seeks to provide. Established through the generosity of Mr. and Mrs. Frank E. Hedrick and implemented by the Academy Foundation, the Hedrick Fellowship program is designed to enhance the educational experience of cadets and faculty by bringing an outstanding American to the Academy each year in order to discuss significant topics of current interest. In addition to President Ford, Hedrick Fellows have included Senator Edward Muskie and most recently Mr. William F. Buckley. The program endeavors to afford cadets and faculty both formal and informal exposures in an effort to derive the full benefit of the visitor's experience and perspective.

ACADEMIC MAJORS

FIRST YEAR (Fourth Class)

The first academic year is generally the same for all cadets:

FALL SEMESTER

1113	Intro to Engineering Design **OR**
7101	Computer Fundamentals
2111	English Comp and Speech
3111	Calculus I
5102	Chemistry I
6112	Coastal Navigation
41	Physical Education

SPRING SEMESTER

2123	Selected Literature
3117	Calculus II
5106	Chemistry II
6114	Celestial Navigation
7101	Computer Fundamentals **OR**
1113	Intro to Engineering Design
41	Physical Education

Note the heavy emphasis on the quantitative courses in the areas of science, mathematics and engineering. During your first three semesters, much of the academic emphasis is in these areas.

CORE PROGRAM OF REQUIRED COURSES

The following 26 courses or their authorized substitutes must be completed successfully (or validated) in order to receive a degree:

1113	Intro to Engineering Design
1320	Intro to Electrical Engineering
1461	Basic Naval Architecture
2111	English Comp and Speech
2123	Introduction to Literature
2241	History of the U S
2263	American Government
2281	General Psychology
3111	Calculus I
3117	Calculus II
3213	Probability & Statistics
5102	Chemistry I
5106	Chemistry II
5262	Physics I
5266	Physics II
5330	Oceanography
6112	Coastal Navigation
6114	Celestial Navigation
6345	Legal Systems
6416	Shiphndlng/Rls Rd/Comms
6418	Shipboard Admin/OOD Skills
6447	Maritime Law Enforcement
7101	Computer Fundamentals
8245	Organizational Behavior
8311	Economics
	Selected Technical Course

"Selected Technical Course" is defined as a course 200 series and above, offered in the Department of Engineering, Department of Science, Department of Mathematics, or Department of Computer Science. Any qualifying technical course taken as a "major requirement" for a technical major satisfies this requirement.

There are certain substitutions allowed within the construction of the majors and these are noted on the subsequent pages.

Each major program contains at least one free elective.

These courses, or their authorized substitutions, in addition to courses required by the individual majors, must be completed successfully in order to receive a designated degree.

AUTHORIZED SUBSTITUTIONS FOR CORE COURSES

The following substitutions for core courses are authorized for any major:

course			substitution
1320	Intro to Electrical Engr	1220	Electrical Engr I
1461	Basic Naval Architecture	1342	Principles of Naval Architecture
8311	Economics	8215	Macroeconomic Principles

1. Other substitutions can be made only when the substitution is specifically authorized or required in a major program.

2. Directed studies may be substituted for any major requirement, major area elective, or related area elective with the approval of the major coordinator.

3. Major Area Electives offered for other year groups in the same major may also be used to meet the Major Area Elective requirements for this year group; however, the same course cannot be used in both the Major Requirement and Major Area Elective categories.

4. Honors Calculus, Physics, and/or Chemistry may be substituted for the core requirement.

DESIGNATED DEGREES

Graduates who successfully complete the Core Course, Major Course, and Major Area Elective requirements of a selected major shall receive a Bachelor of Science degree in that discipline.

ACADEMIC MAJORS

It should be noted that the major programs and course descriptions listed below and on the following pages, as well as the general description given above and on the previous pages, are illustrative and are intended to apply specifically to the Class of 1987. Programs are dynamic and changes may occur.

CIVIL ENGINEERING

The Civil Engineering major is a sound undergraduate educational program that provides a broad background for the future Coast Guard Officer in a wide spectrum of Coast Guard missions, and an excellent technical base to meet the challenges of changing technology. The cadet who follows this program will be especially well-prepared for professional practice and further study in civil engineering as well as many other related fields of engineering.

The Civil Engineering major gives a broad background in mathematics and the basic engineering sciences. In addition, it requires in-depth study in areas of special interest to civil engineers: structural analysis, water resources, construction, and environmental engineering. All courses within the major consider social relevance, developing a sensitivity to the problems of society and how the technical product will meet with the community.

The program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

I. CORE REQUIREMENTS:*

Substitute Electrical Engr I (1220) for Intro to Electrical Engr (1320)
Substitute Environmental Engr (1417) for Oceanography (5330)

II. MAJOR REQUIREMENTS:*

(One course from this section satisfies the "Selected Technical Course" core requirement)

1202	Statics/Strength of Mats	1326	Electromechanics
1211	Dynamics	1340	Fluid Mechanics
1302	Material Science CE	1402	Plng/Dsgn Const Projects
1304	Soil Mech/Foundations	1411	Reinforced Concrete Dsgn
1311	Structural Analysis	1415	Water/Wastewater Engr
1313	Steel Design	3211	Multivariable Calculus
1315	Matrix/Finite Elements	3215	Differential Equations

*Successful completion of asterisked sections is required for degree designation

ELECTRICAL ENGINEERING

The Electrical Engineering Major provides a sound professional education for future Coast Guard officers. It strives to educate cadets to continue learning after graduation and to grow in professional and personal status throughout their lives. The major is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

This major emphasizes the acquisition of fundamental knowledge and the application of this knowledge to the formulation and solution of real engineering problems. Emphasis is placed upon using principles and facts taught in earlier courses to solve these problems. Implementation of an innovative curriculum and the introduction of courses in analysis, design, synthesis and evaluation early the course sequence accomplish this objective.

This thorough background in the latest solid-state devices and techniques, together with an abundance of mathematics and science courses, prepares the student with the tools for challenging design projects in EE and inter-disciplinary areas. Additionally, the program permits the graduate considerable latitude for post-graduate study in electrical or electronics engineering and in related engineering fields.

I. CORE REQUIREMENTS:*

Substitute Electrical Engr I (1220) for Intro Electrical Engr (1320)
Substitute Probability (3357) for Probability & Statistics (3213)

II. MAJOR REQUIREMENTS:*

(One course from this section satisfies the "Selected Technical Course" core requirement)

1202	Statics/Strength of Mats	1422	Communication Systems
1222	Electrical Engr II	1424	Automatic Controls
1322	Linear Circuits	1426	System Dsgn/Synthesis
1324	Digital Design	3211	Multivariable Calculus
1326	Electromechanics	3215	Differential Equations
1420	Antennas and Propagation	5364	Semiconductor Physics

III. MAJOR AREA ELECTIVES:*

Select two of the following engineering courses:

1204	Material Science ME/OE	1340	Fluid Mechanics
1211	Dynamics	1351	Thermodynamics

*Successful completion of asterisked sections is required for degree designation

MARINE ENGINEERING

The Marine Engineering major is a sound undergraduate educational program that provides an excellent technical base to meet the challenges of changing technology. It furnishes a broad background for the future Coast Guard Officer in a wide spectrum of Coast Guard missions such as Ship & Boat Design, Construction & Repair, Merchant Marine Safety, Boating Safety, Marine Environmental Protection, Research and Development, Ocean Operation, and Aids to Navigation.

The program focuses on ships and their design; therefore the graduate will be especially well-prepared for professional practice in the field of Naval Architecture, Marine Engineering and Ocean Engineering. The program also provides a sound background for further study in other fields of engineering, management, aviation, and other areas.

The program is accredited by the Engineering Accreditation Commission of Accreditation Board for Engineering and Technology.

I. CORE REQUIREMENTS:*

Substitute Electrical Engr I (1220) for Intro to Electrical Engr (1320)
Substitute Principles of Naval Architecture (1342) for Basic Naval Architecture (1461)

II. MAJOR REQUIREMENTS:*

(One course from this section satisfies the "Selected Technical Course" core requirement)

1202	Statics/Strength of Mats	1442	Principles of Ship Design
1204	Material Science ME/OE	1444	Ship Design and Systems Integration
1211	Dynamics	1446	Engr Experimentation
1326	Electromechanics	1453	Ship Propulsion Design
1340	Fluid Mechanics	3211	Multivariable Calculus
1351	Thermodynamics	3215	Differential Equations
1353	Shipboard Energy Systems		

III. MAJOR AREA ELECTIVE:*

Select one additional engineering course of 200 level or higher other than Intro to Electrical Engr (1320)

*Successful completion of asterisked sections is required for degree designation

APPLIED SCIENCE

The Applied Science Major provides a sound scientific education for future Coast Guard officers as well as a solid background in the fundamentals of marine science and chemistry. Students of this major are exposed to many principles and applications which address current problems of law enforcement and environmental protection faced by modern society and the Coast Guard. These areas include hazardous materials identification and regulation; marine pollution regulation, occurrence, and response; marine productivity, the food chain, and its chemistry; energy conversions in physical and chemical systems; computer utilization for the solution of complex problems.

The graduate of this major is prepared to deal with many problems of Coast Guard concern and may directly enter many specialty areas. The graduate is also prepared for postgraduate study in the areas of Chemistry, Chemical Engineering, Environmental Management, Marine Science, Engineering Physics, or virtually any other discipline which would be enhanced by a technical background.

I. CORE REQUIREMENTS:*

Substitute Physical Oceanography (5338) for Oceanography (5330)
Substitute Electrical Engr I (1220) for intro to Electrical Engr (1320)

II. MAJOR REQUIREMENTS:*

(One course from this section satisfies the "Selected Technical Course" core requirement)

3211	Multivariable Calculus
3215	Differential Equations
5201	Inorganic Chemistry
5202	Organic Chemistry
5232	Marine Biology
5242	Geoscience
5312	Physical Chemistry I
5322	Physical Chemistry II
5351	Geophysical Fluid Dynamics
5412	Analytical Methods
5415	Hazardous Materials
5441	Marine Pollution
5447	Regional Oceanography

*Successful completion of asterisked sections is required for degree designation

MATHEMATICAL AND COMPUTER SCIENCES

The Mathematical and Computer Sciences major provides a sound undergraduate education for future Coast Guard Officers. In this major, the relationship of mathematics to computing and to computing machines is emphasized. The Coast Guard has and will continue to have a need for officers who have a thorough understanding of mathematics and computer techniques and applications.

In combination with such related areas as engineering, physical sciences, and management, this program presented by the Departments of Computer Science and Mathematics will provide an excellent undergraduate education and will be especially suited for post graduate education in these fields.

The required courses in mathematics and computer science insure breadth of training while elective courses allow specialization in either area.

I. CORE REQUIREMENTS:*

Probability & Statistics Application (3357) may be substituted for Probability and Statistics (3213)

II. MAJOR REQUIREMENTS:*

(One course from this section satisfies the "Selected Technical Course" core requirement)

3211	Multivariable Calculus	3435	Algebraic Structures
3215	Differential Equations	7201	Technical Programming
3231	Linear Algebra	7302	Computer Organization
3311	Advanced Calculus	7306	Data Structures
3351	Numerical Analysis	7308	Programming Languages

III. MAJOR AREA ELECTIVES:*

Select four mathematics and/or computer science electives of 200 level or higher.

*Successful completion of asterisked sections is required for degree designation

GOVERNMENT

The Government major provides a sound undergraduate education for future Coast Guard Officers. A cadet who selects this major will be well prepared for advanced study in law, public administration, public and international affairs, personnel and instructional technology and other related fields of interest to the Coast Guard.

This program is intended to provide future officers with an opportunity for extended study of both western and non-western historical backgrounds, governmental political institutions, political processes, and public and international affairs.

I. CORE REQUIREMENTS:*

II. MAJOR REQUIREMENTS:*

2261	American Foreign Policy	2365	Comparative Politics
2265	Social Sciences Mthdlgy	2367	International Relations
2321	Humanities in World Lit	2463	U.S. Maritime Hist & Pol
2361	Western Political Theory	2469	National Security Policy

III. MAJOR AREA ELECTIVES:*

Select two courses from the following listing (offered subject to sufficient enrollment):

2341	Modern Europe	2363	Amer Political Parties
2343	Modern Russia	2461	Congress and Presidency

IV. RELATED AREA ELECTIVES:*

Select a two course related sequence which will complement the major. Recommended areas are: Foreign Languages, History, Literature, Law, Psychology, Management, Economics, and Computer Science. (If a Computer Science sequence is taken, one of the courses will count as the "Selected Technical Course" core requirement).

*Successful completion of asterisked sections is required for degree designation

MANAGEMENT

The Management Major is a sound undergraduate educational program that provides excellent preparation to meet the demanding and varied roles of Coast Guard Officers. All of the career fields and officer assignments within the Coast Guard have in common the requirements of personnel, financial, and material management. The Management Major prepares cadets for their future supervisory and managerial roles by building upon the disciplines of economics, the behavioral sciences and mathematics. The program prepares graduates for further study in financial management, operations research, personnel management, law, economics, transportation, business administration, and public administration.

I. CORE REQUIREMENTS:*

Probability & Statistics Application (3357) may be substituted for Probability & Statistics (3213)

Substitute Macroeconomic Principles I (8215) for Economics (8311)

II. MAJOR REQUIREMENTS:*

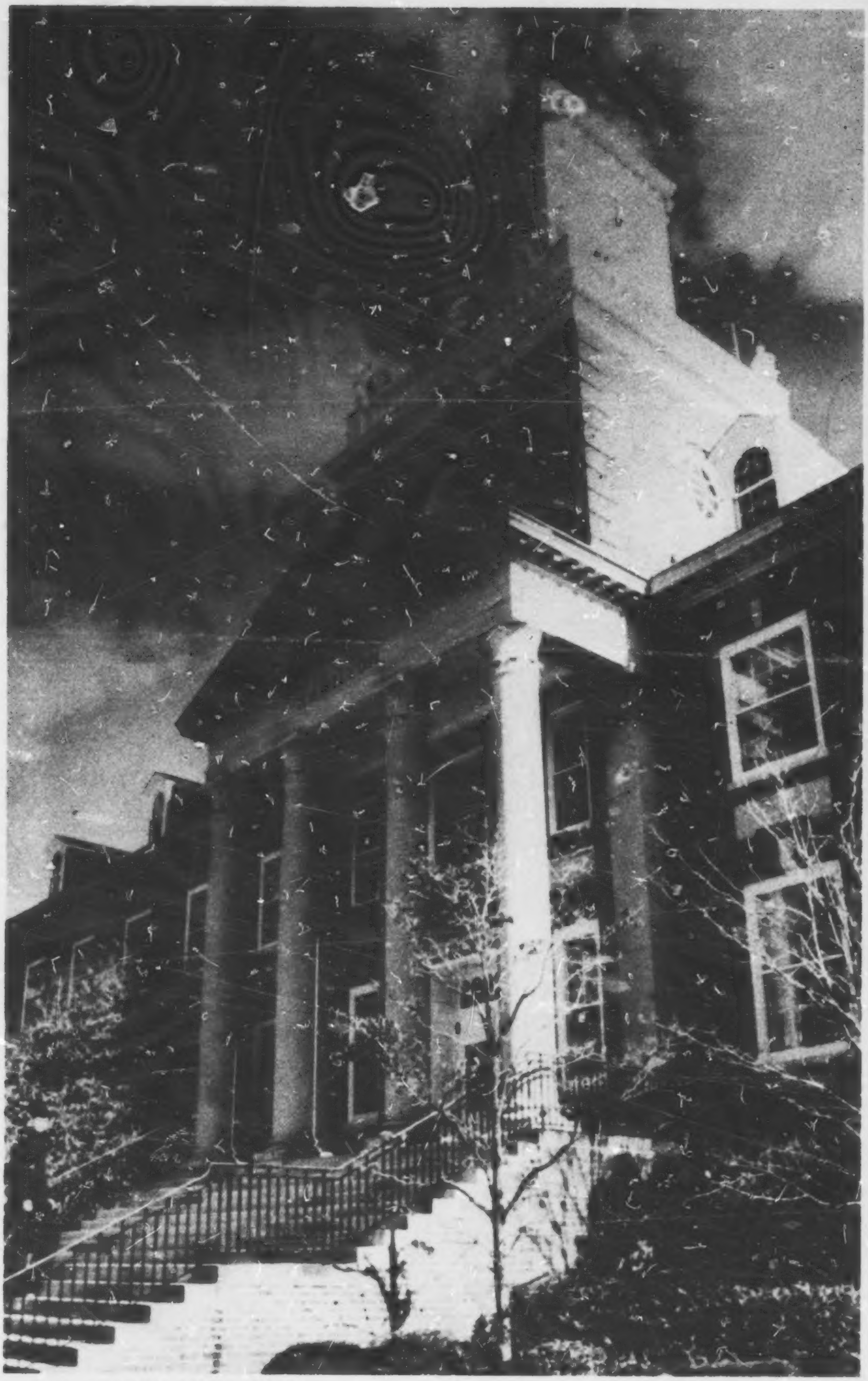
8217	Microeconomic Principles
8313	Microeconomic Theory
8347	Financial Accounting
8351	Operations Research
8363	Quantitative Methods
8425	Public Systems Analysis
8447	Management Policy

III. MAJOR AREA ELECTIVES:*

Select six courses from the following listing (offered subject to sufficient enrollment):

8315	Macroeconomic Theory
8317	Money and Banking
8319	Environmental Economics
8321	Transportation Economics
8323	Int'l Trade and Finance
8349	Financial Management
8355	Organizational Development
8357	Personnel Management
8361	Transportation Policy
8427	Econ of Labor/Mgt Rel
8439	Directed Studies in Econ
8469	Directed Studies in Mgt

*Successful completion of asterisked sections is required for degree designation



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COURSE DESCRIPTIONS

ENGINEERING

CIVIL ENGINEERING AND APPLIED MECHANICS

Introduction To Engineering Design (1113)
Fall or Spring Semester — 2 Credits
Introduction to the Techniques of engineering design and problem solution. Examination and practice of the design process through individual projects in electrical, marine, ocean, civil engineering with each optimized design demonstrated on appropriate equipment. Practice of idea generation, design process and project presentation via written reports and technical sketching. Introduction to Coast Guard Engineering via guest lectures.
Class: 2 hours a week

Statics and Strength of Materials (1202)
Fall or Spring Semester — 4½ Credits
An introductory study of the mechanics of rigid and deformable bodies. Application of equilibrium conditions to free body diagrams of rigid bodies. The study of deformation and geometric compatibility, to supplement equilibrium equations in the solution of statically indeterminate axial, torsional and beam structures. Supporting topics in stress, strain, elastic behavior, ductile and brittle fracture, stress concentrations, fatigue and creep. Laboratory exercises in tensile testing, beam stress, beam deflection and column buckling.
Class: 4 hours a week
Laboratory: 2 hours biweekly
Prerequisite: Calculus II (3117)

Material Science for Marine and Ocean Engineers (1204)
Spring Semester — 3 Credits
Metallurgy with emphasis in solid state physics, crystallography, dislocation theory and phase diagrams related to the physical behavior of metals. Elevated temperature behavior, corrosion, alloying, heat treatment and grain growth. Effects of metal fabrication processes. Amorphous materials with emphasis on use, properties and limitations. Laboratory experiments: stress concentrations, corrosion, brittle fracture, cold working, annealing, heat treatment, precipitation hardening, x-ray diffraction.
Class: 3 hours a week
Laboratory: Ten 3 hour laboratory experiments.
Prerequisites: Statics and Strength of Materials (1202) and Chemistry II (5106)

Dynamics (1211)
Spring Semester — 4 Credits
An introductory course in dynamics and mechanical vibrations covering topics in: kinematics and kinetics of particles and rigid bodies in two and three dimensions under the effects of unbalanced force systems; principles of work and energy; principles of impulse and momentum; the forced and free vibrations of linear systems of one degree of freedom with and without damping.
Class: 4 hours a week
Prerequisites: Statics and Strength of Materials (1202)

Material Science for Civil Engineers (1302)
Fall Semester 4 Credits
A study of the material and engineering properties of steel, concrete and wood and an introduction to other engineering materials. Microscopic investigation of metals and the effects of fabrication, welding, heat treatment and corrosion. Proportioning of concrete mixes and the investigation of the properties of aggregates, cement and admixtures. Strength and creep characteristics of concrete. Engineering characteristics of wood and the effects of natural defects, moisture content, slope of grain, density, duration of load and direction of load application. Weekly laboratory experiments examining the macroscopic behavior of all materials, aggregate properties, wet and dry properties of concrete, curing effects and air entrainment.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisites: Statics and Strength of Materials (1202) and Chemistry II (5106)

Soil Mechanics and Foundation Design (1304)
Spring Semester 4 Credits
The origin and characteristics of soil and rock, fundamentals of soil behavior and its use as a construction material. The effective stress principle, one-dimensional settlement analysis, shear strength, bearing capacity of foundations, and stability of retaining walls and slopes. Design considerations for various types of foundations: footings, mats, and piles.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisites: Fluid Mechanics (1340), Statics and Strength of Materials (1202)

Structural Analysis (1311)
Fall Semester 4 Credits
Statically determinate structural analysis of plane structures including internal forces and moments of members and their deformations using virtual work, Castigliano's theorem conjugate beams, and moment area methods. Statically indeterminate structural analysis of plane structures using consistent deformations, least work, slope deflection and moment distribution analysis for structures with and without joint translation and composed of prismatic and non-prismatic members.
Class: 4 hours a week
Prerequisites: Statics and Strength of Materials (1202) and Multivariable Calculus (3211)

Steel Design (1313)
Spring Semester 3 Credits
An introduction to the design of steel members: the behavior of steel beams, columns, beam-columns and tension members. The design and detailing of bolted and welded connections.
Class: 3 hours a week
Prerequisite: Structural Analysis (1311)

Matrix and Finite Element Analysis (1315)
Spring Semester 3 Credits
Introduction to Matrix algebra and matrix techniques in typical Civil Engineering Structural Analysis problems. Matrix formulation of the displacement method of solution for trusses, beams, and higher order finite elements. Interactive computer graphics. Programming and use of mini and large main frame computers.
Class: 3 hours a week
Prerequisites: Structural Analysis (1311); Computer Fundamentals (7101)

Planning and Design of Construction Projects (1402)
Spring Semester 4 Credits
Design and execution of civil engineering construction projects. Two phased course covering the design and construction process. Design process includes organization of the design team, evaluation of design alternatives, design standards/codes and specification writing. Construction process entails construction organization, cost estimating, contracting and project management.

Class: 2 hours a week
Laboratory: 3 hours semi-weekly
Prerequisites: Approval of Major Coordinator and Academic Advisor

Reinforced Concrete Design (1411)
Fall Semester 3 Credits
Fundamentals of reinforced concrete behavior and design. Covered in detail are the behavior and design of: singly reinforced beams, Tee-beams, one-way slabs, columns and beam columns. Additional topics: reinforcement placing, bar cutoffs and bond. Design and detailing based on ACI code.
Class: 3 hours a week
Prerequisites: Statics and Strength of Materials (1202); Material Science for Civil Engineers (1302) and Matrix and Finite Element Analysis (1315).

Mechanical Vibrations (1413)
Spring Semester 3 Credits
Linear systems of one and two degrees of freedom, including free and forced vibrations of both damped and undamped systems. The tuned vibration absorber. Linear systems of many degrees of freedom using Stodola's, Rayleigh's and Holzer's methods, and normal mode theory. Continuous systems such as vibrating strings, vibrating membranes, and the simpler cases of vibrating beams.
Class: 3 hours a week
Prerequisites: Dynamics (1211) and Differential Equations (3215).

Water and Wastewater Engineering (1415)
Fall Semester 4 Credits
The fundamentals of fluid mechanics, hydraulics, and hydrology as applied to the environmental engineering considerations of water supply and water pollution control. The physical, chemical, and biological principles involved. Water, sewage, and industrial waste treatment.
Class: 4 hours a week
Prerequisites: Fluid Mechanics (1340) and Chemistry II (5106).

Interior Environmental Control (1417)
Fall Semester 4 Credits
Engineering aspects of environmental protection. Meteorology and air pollution control. Solid waste management. Nuclear waste disposal. Fundamentals of thermodynamics with application to principles and practices of heating, air conditioning and humidity control systems.
Class: 4 hours a week
Prerequisites: Multivariable Calculus (3211) and Chemistry II (5106).

Directed Studies in Civil Engineering (1419)
Spring or Fall Semester 3 Credits
Individual projects in Civil Engineering involving reading, design, analysis or applications.
Class: 3 hours a week
Prerequisites: Approval of Major Coordinator and Academic Advisor

OCEAN ENGINEERING AND MARINE ENGINEERING

Fluid Mechanics (1340)
Fall Semester 3.3 Credits
Fundamental principles and characteristics of fluid motion. Principles of fluid statics, buoyancy, stability of floating and submerged bodies. Covers fluid resistance, dimensional analysis, laminar and turbulent flow, boundary layer theory and pipe and open channel flow. Laboratory periods demonstrate classroom concepts and phenomena.
Class: 3 hours a week
Laboratory: 2 hours
Prerequisites: Statics and Strength of Materials (1202) and Multivariable Calculus (3211)

Principles of Naval Architecture (1342)
Spring Semester 4 Credits
An investigation of hydrodynamics and hydrostatics of floating bodies. Concepts of stability and resistance of marine vehicles.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisite: Statics/Strength of Materials (1202)

Thermodynamics (1351)
Fall Semester 3 Credits
Fundamental principles of classical equilibrium thermodynamics. Use of ideal gas law and thermodynamic property diagrams and tables. Thermodynamic processes. Development and application of first law of thermodynamics to steady flow and nonflow processes. The second law of thermodynamics. Comprehension of power and refrigeration cycles, including variations from simple cycles.
Class: 3 hours a week
Prerequisites: Multivariable Calculus (3211) and Chemistry II (5106)

Shipboard Energy Systems (1353)
Spring Semester 3 Credits
Principles of steam turbine, gas turbine, and diesel propulsion systems and the operating characteristics and limitations of these systems. Principles of thermodynamic power and refrigeration cycles, including variations from the simple cycles. Principles and practices of heating, cooling, ventilation and humidity control of interior spaces. Basics of Heat Transfer with emphasis on Heat Exchanger analysis and the calculation of heating and cooling loads.
Class: 3 hours a week
Prerequisites: Fluid Mechanics (1340) and Thermodynamics (1351)

Ocean Wave Mechanics (1381)
Fall and Spring Semesters 3 Credits
Investigation of the linear theory of ocean waves with deep and shallow water approximations, including superposition, reflection, refraction, shoaling and breaking of waves. Prediction of wave spectra at sea. Applied probability concepts develop spectra/response prediction of fixed and floating structures in the ocean. Applied linear wave theory. Force and motion response of structures in the sea. Term projects and demonstrations utilizing the Academy's towing tank and computer.
Class: 3 hours a week
Prerequisite: Fluid Mechanics (1340)

Advanced Naval Vehicles (1440)
Spring Semester 3 Credits
Overall characteristics and performance of all waterborne and airborne vehicles, with emphasis on advanced marine vehicles, especially hydrofoils and air cushion vehicles. Lectures by outside authorities.
Class: 2 hours a week
Laboratory: 3 hours a week
Prerequisite: Fluid Mechanics (1340)

Principles of Ship Design (1442)
Fall Semester 4 Credits
The art and science of ship design, application of principles from other courses into ship design: Ship Strength and Structure. ABS Rules, estimating methods, hull vibra-

tions, the design process, preliminary dimensions, weight estimates, figures of merit, analysis of vessel and payload, modeling, lines, general arrangements. Extensive computer applications.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisites: Principles of Naval Architecture (1342) and Shipboard Energy Systems (1353)

Ship Design/System Integration (1444)
Spring Semester 4 Credits
A capstone design course for Marine Engineering majors. Lectures on engineering economics, CPM and PERT. Shipbuilding and life cycle costing, trade-off studies in design. A significant design project for a ship which integrates pertinent technical areas, addresses trade-offs and systems aspects of ship design. Emphasis on integration of hull and machinery systems. Oral and written presentations.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisite: Principles of Ship Design (1442)

Engineering Experimentation (1446)
Fall Semester 4½ Credits
Apply the fundamental principles of thermodynamics, fluid dynamics, mechanics and electrical science in the experimental analysis of engineering components and systems. Perform instrumentation for flow, pressure, temperature, force, torque, strain, vibration and sound measurements. Test planning, data point spacing and professional society standard test procedures. Data analysis utilizing uncertainty theory, statistical criteria, graphical and curve fitting techniques. The role of computer in data reduction analysis and display is stressed and computer techniques are used where possible. Lab sessions include the analysis of internal combustion engines, centrifugal pumps and engineering systems.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisites: Fluid Mechanics (1340), Thermodynamics (1351), and Probability and Statistics (3213)

Ship Propulsion Design (1453)
Fall Semester 3 Credits
A capstone Marine Engineering course. Marine Engineering principles and practices. Principles, characteristics and selection processes for the fixed and controllable pitch screw propeller. Principles of matching propeller characteristics to prime mover characteristics. Power transmission systems which include gearing and shafting. Vibration considerations within the marine propulsion plant. Characteristics to be considered when comparing existing propulsion systems. Completion of a Preliminary Marine Engineering design project for a marine propulsion system.
Class: 3 hours a week
Prerequisites: Fluid Mechanics (1340), Thermodynamics (1351), Shipboard Energy Systems (1353)

Energy Conversion (1457)
Fall Semester 3 Credits
Conventional and alternate energy sources: forms, transformations; transfer and storage. Energy transformation, transfer and storage systems.
Class: 3 hours a week
Prerequisites: Thermodynamics (1351); Electrical Engineering I (1220)

Heat Transfer (1459)
Spring Semester 3 Credits
Application of Fourier's law of conduction to one and two dimensional steady and non-steady state heat flow problems; Radiation laws of Stefen-Boltzman and Kirchoff to black and gray surface problems; Newton's law of cooling to problems of natural and forced circulation. Analysis of heat transfer systems using basic laws of mass and energy continuity concepts.
Class: 3 hours a week
Prerequisites: Fluid Mechanics (1340); Thermodynamics (1351)

Basic Naval Architecture (1461)
Fall and Spring Semesters 3 Credits
Required for all cadets except those who take Ship Design I. Stability and floatation under static, dynamic and damaged conditions. Ship's strength, floodable length, resistance and propulsion.
Class: 3 hours a week

Nuclear Power Systems (1463)
Spring Semester 3 Credits
The fission chain reaction. Particle interaction with matter. Shielding and health physics. Reactor structural, moderator, and fuel materials. Energy production and removal. Reactor Kinetics. Reactor safety. Power reactor systems and characteristics.
Class: 3 hours a week
Limitation: For Engineering majors only.

Directed Studies in Marine Engineering (1469)
Fall or Spring Semester 3 Credits
Individual projects in Marine Engineering involving reading, design, analysis or applications.
Class: Hours as arranged
Laboratory. Hours as arranged
Prerequisite: Approval of Academic Advisor and Major Coordinator

Underwater Acoustics (1470)
Fall Semester 3½ Credits
Fundamentals of acoustics. Plane and spherical waves. Transmission phenomena; reflection and refraction at boundaries; transmission through layered media. Absorption of sound in fluids. Ultrasonic and sonar transducers, propagation of sound in the ocean; ray theory and normal mode theory. The sonar equations.
Class: 3 hours a week
Laboratory: 3 hours bi-weekly
Prerequisites: Electrical Engineering I (1220); Differential Equations (3215).

Ocean Engineering Structures (1472)
Fall Semester 4 Credits
Stiffness method of structural analysis (finite element method) and the current design codes. Structural analysis program is written involving matrix operations, solutions to simultaneous linear equations and element stiffness matrix formulation for truss, beam and grid type elements. The design codes are presented for exposure to the design/analysis cycle. Design project includes utilization of "packaged" programs. Laboratory periods utilized to develop the computer programs and the design project.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisites: Statics and Strength of Materials (1202); Differential Equations (3215); Computer Fundamentals (7101).

Ocean Engineering Design (1474)
Spring Semester 4 Credits
Design, synthesis, and analysis. Engineering economics, ethics, modelling techniques, creativity, PERT, and decision theory. Design projects of relevant engineering in the oceans, i.e., floating platforms, drill rigs, energy sources, floating breakwaters, etc. Oral and written presentations.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisites: Ocean Wave Mechanics (1381); Engineering Experimentation (1446); Ocean Engineering Structures (1472).

Directed Studies in Ocean Engineering (1489)
Fall or Spring Semester 3 Credits
Individual projects in Ocean Engineering involving reading, design analysis or applications.
Class: Hours as arranged
Laboratory: Hours as arranged
Prerequisite: Approval of Academic Advisor and Major Coordinator

ELECTRICAL ENGINEERING

Electrical Engineering I (1220)

Fall Semester 3½ Credits

Circuit analysis using Ohm's and Kirchoff's laws; loop and node analysis of dc and ac circuits. Use of phasors in solution of ac circuits. Study of forced and natural responses in circuits. Three-phase circuits, power and transformers introduced. Circuits with independent and dependent sources are solved. Laboratory familiarization with basic instrument and measurement techniques.
Class: 3 hours a week
Laboratory: 3 hours biweekly
Prerequisite: Calculus I (3111); Physics I (5262) (co-requisite)

Electrical Engineering II (1222)

Spring Semester 3½ Credits

The study of linear systems through signal analysis, singularity functions, convolution, Fourier, and Laplace transforms. Formulation and solution of differential equations using transform techniques. Time and frequency domain analysis of linear systems. Introduction of models and diodes, bipolar and field effect transistors.
Class: 3 hours a week
Laboratory: 3 hours biweekly
Prerequisite: Electrical Engineering I (1220)

Introduction to Electrical Engineering (1320)

Fall or Spring Semester 3½ Credits

Basic electrical engineering: circuit theory, electric machinery, power distribution, and electronics/communications. Laboratory in basic instrument usage and electronic device application.
Class: 3 hours a week
Laboratory: 3 hours biweekly
Prerequisite: Physics II (5266)

Linear Circuits (1322)

Fall Semester 4 Credits

Study of diodes, bipolar and field effect transistor circuits, emphasis on design of small signal amplifiers including multistage amplifiers and power amplifiers. Ideal and non-ideal operational amplifiers studied with emphasis on practical circuits. Laboratory exercises include computer analysis of active circuits and design of linear OP AMP applications.
Class: 3 hours a week
Laboratory: 3 hours biweekly
Prerequisite: Electrical Engineering II (1222)

Digital Design (1324)

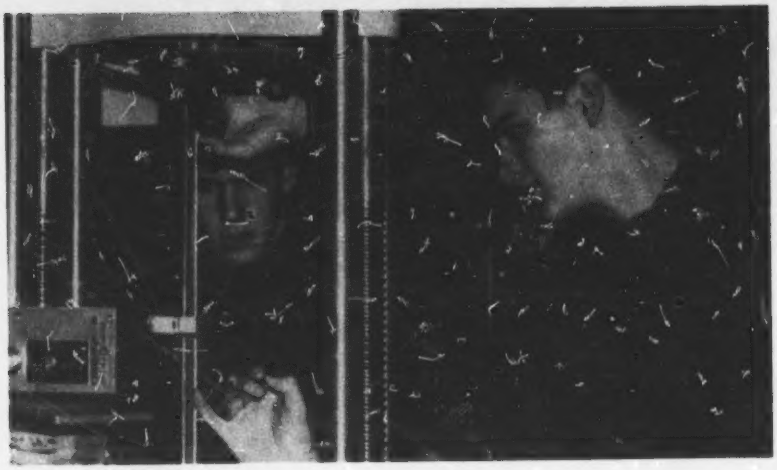
Spring Semester 3½ Credits

Principles of digital systems. Use of Boolean algebra and Karnaugh maps as minimization techniques. Number systems and digital codes. Logic gates with emphasis on TTL NAND type gates. Flip flops, counters, data selectors and code converters introduced. Sequential logic controllers analyzed. Laboratory applications and analysis of digital components. Design project required.
Class: 3 hours a week
Laboratory: 3 hours biweekly
Prerequisites: Electrical Engineering I (1220) or Intro to Electrical Engineering (1320) and permission of Major Coordinator

Electromechanics (1326)

Spring Semester 3⅓ Credits

Principles and applications of electromechanical energy conversion. Induction motors, synchronous machines, D.C. machines, solid state motor controllers, electrical power distribution, transformers. Laboratory experiments in transformers and rotating machinery.
Class: 3 hours a week
Laboratory: 2 hours biweekly
Prerequisite: Electrical Engineering I (1220)



Projects in Engineering (1395)
Fall and Spring Semesters 1 Credit
Projects in Engineering under the direct supervision of a faculty member. The projects can be direct participation in laboratory projects, research, or individual projects requiring periodic instructor review. Specific projects can be construction of hardware, computer software, experimental work, or a paper study. A final written report is required. May be taken only as an overload.
Class: No
Laboratory: One hour a week
Prerequisite: Approval of Major Coordinator and Academic Advisor

Antennas and Propagation (1420)
Fall Semester 3½ Credits
Fundamentals of electromagnetic wave propagation. Short development of Maxwell's equations. Plane electromagnetic waves. Guided waves; transmission lines and waveguides. Fundamentals of antennas. Performance of simple antennas, arrays, horns, broadband antennas, helical antennas, and other types of antenna structures.
Class: 3 hours a week
Laboratory: 3 hours biweekly
Prerequisite: Electrical Engineering I (1220); Multivariable Calculus (3211)

Communication Systems (1422)
Fall Semester 4 Credits
Analysis and design of communication systems which employ any of various modulation techniques, including amplitude, phase, frequency, and pulse modulation. Analysis of noisy environment effects through the mathematical representation of noise. Extensive use of spectral analysis. Sampling. Correlation. Related laboratory exercises using spectrum and wave analysis with both advanced laboratory test equipment and computers.
Class: 3 hours a week
Laboratory: 3 hours weekly
Prerequisites: Electrical Engineering II (1222); Probability (3357)

Automatic Controls (1424)
Spring Semester 3½ Credits
Modern methods of automatic control theory and design. Time response of linear systems, error analysis and compensation methods; stability by Routh-Hurwitz; Root Locus, Bode and Nyquist; state variable approach, discrete difference equation simulations; analog/digital computer laboratory.
Class: 3 hours a week
Laboratory: 3 hours biweekly
Prerequisite: Electrical Engineering II (1222), Linear Circuits (1322) or by permission of major coordinator.

Systems Design/Synthesis (1426)
Spring Semester 4 Credits
Planning and completing an engineering design project. Efforts include lectures in en-

gineering design techniques and methodology, engineering proposals, technical report writing and engineering economics. A laboratory effort using these techniques and requiring a hardware development project to be built and demonstrated forms the main thrust of the course. Each project must demonstrate mastery of microprocessor capabilities, characteristic applications and limitations, and interfacing to analog systems. An oral presentation of the project is required.
Class: 2 hours a week
Laboratory: 6 hours a week
Prerequisites: Digital Design (1324), or Computer Organization (7302) and permission of Major Coordinator

Directed Studies in Electrical Engineering (1439)
Fall or Spring Semester 3 Credits
Individual projects involving design, analysis, or applications of electric and electronic devices, systems, or principles.
Class: Hours as arranged
Laboratory: Hours as arranged
Prerequisite: Approval of Academic Advisor and Major Coordinator

HUMANITIES

English Composition and Speech (2111)
Fall Semester 3 Credits
Instruction and practice in the principles of written and oral exposition with heavy consideration given to such forms as the persuasive essay, the article and the report based on source materials. Primary emphasis on the gathering, and use of evidence, logical structure, and lucid communication, both written and oral.
Class: 3 hours a week

Introduction to Literature (2123)
Spring Semester 3 Credits
An examination of the intellectual, philosophical, and spiritual ideas expressed in selected works of fiction, poetry, and drama. Introduction to the techniques and traditions of the major genres of literature and to concerns such as patterns of imagery and symbolic meanings. Several critical papers, an oral presentation, and a research paper based on the material covered are required.
Class: 3 hours a week

The Heroic Figure in Literature (2213)
Spring Semester 3 Credits
Survey of the Heroes of Literature from the Greek Tragic Heroes to the American Space Heroes as they reflect the beliefs, attitudes and values of their times and their cultures. Written and oral analysis based on the works of representative authors such as Shakespeare, Hemingway and Wolfe. Short reference paper.
Class: 3 hours a week
Prerequisite: English Composition and Speech (2111); Introduction to Literature (2123)

Literature and the Sea (2217)
First Year, Spring Semester 3 Credits
Significant literary works exemplifying man's intellectual and imaginative responses to the sea where the sea functions as catalyst to man's spiritual and philosophical vision. Reports, both written and oral, based primarily on the readings, and a short reference paper.
Class: 3 hours a week
Prerequisites: English Composition and Speech (2111); Introduction to Literature (2123)

Literature and Revolution (2219)
Fall or Spring Semester 3 Credits
The political, social, and human impact, and the rhetoric of revolution, as reflected in imaginative and expository literature by such writers as Dostoevsky, Koestler, Silone, Orwell, Burke, Paine, Marx, Lenin, and others. Reports, both written and oral, are based primarily on the readings. A short reference paper is required.
Class: 3 hours a week
Prerequisites: English Composition and Speech (2111); Introduction to Literature (2123)

The Examined Life (2221)
Spring Semester 3 Credits
The search for personal identity as revealed in autobiographies and autobiographical fiction. The ways by which individuals of various social and cultural backgrounds have come to terms with their families, their peers, and themselves. The emphasis is on growing up in America, and on what it means to be an American. Reports, written and oral, based on the readings, as well as an autobiography and a research paper.
Class: 3 hours a week
Prerequisites: English Composition and Speech (2111); Introduction to Literature (2123)

French I (2231)
Fall Semester 3 Credits
Achievement of oral fluency in the language; utilization of language laboratory facilities; oral-aural method of instruction; appreciation of French culture and civilization.
Class: 3 hours a week

French II (2233)
Spring Semester 3 Credits
Achievement of oral fluency in the language; utilization of language laboratory facilities; oral-aural method of instruction; appreciation of French culture and civilization.
Class: 3 hours a week
Prerequisite: French I (2231)

Spanish I (2235)
Fall Semester 3 Credits
Achievement of oral fluency in the language; utilization of language laboratory facilities; oral-aural method of instruction; appreciation of Hispanic culture and civilization.
Class: 3 hours a week

Spanish II (2237)
Spring Semester 3 Credits
Achievement of oral fluency in the language; utilization of language laboratory facilities; oral-aural method of instruction; appreciation of Hispanic culture and civilization.
Class: 3 hours a week
Prerequisite: Spanish I (2235)

History of the U.S. (2241)
Fall or Spring Semester 3 Credits
Basic treatment of the social, economic, political and diplomatic development of the United States since 1789.
Class: 3 hours a week

American Foreign Policy (2261)
Spring Semester 3 Credits
A survey of the diplomatic history and foreign policy of the United States from the American Revolution to the present.
Class: 3 hours a week
Prerequisite: History of the U.S. (2241)

American Government (2263)
Fall and Spring Semesters 3 Credits
The evolution, organization, and functioning of our national government. The Constitution, Congress, presidency, judiciary, administrative agencies, and the role of political parties discussed in terms of their origins and present applications.
Class: 3 hours a week
Not open to Fourth Class
Prerequisite: History of the U.S. (2241)

Social Science Methodology (2265)
Fall Semester 3 Credits
Introduction to the methods and techniques of quantitative social science methodology. Theoretical and practical problems as empirically testable hypotheses, research design, measurement techniques, and survey research methods, utilizing statistical computer packages for analytical exercises. Basis for individual research or advanced work in the social sciences.
Class: 3 hours a week
Prerequisite: American Foreign Policy (2261)

General Psychology (2281)
Fall and Spring Semesters 3 Credits
Introduction to the basic concepts and methods of psychology, with a view of developing in the cadet an awareness of the principles governing human behavior. Begins with the psychology of the individual, stressing such areas as motivation, learning, emotions, and perceptual processes, and culminates in a survey of the psychology of groups, social behavior, and leadership.
Class: 3 hours a week

The Myth as Adventure (2311)
Offered Occasionally 3 Credits
Study of the theme of adventure in Greek, Roman, and Scandanavian Mythology. Emphasis on heroic exploits, physical, intellectual and moral, and their implications for contemporary readers. Particularly those entering upon a profession requiring bold action in precarious situations
Class: 3 hours a week
Prerequisite: Introduction to Literature (2123).

The Western Tradition in Literature (2313)
Fall Semester 3 Credits
Great works from later periods of the Western literary tradition, considered both in cultural context and for their present relevance, including selections from Virgil, Dante, Cervantes, Shakespeare, Goethe, Flaubert, Dostoevsky, and others.
Class: 3 hours a week
Prerequisite: Introduction to Literature (2123).

Three Major English Authors (2315)
Spring Semester 3 Credits
Selected major works of Chaucer, Shakespeare, and Milton, and dramatic and poetic expressions of medieval, Renaissance, and post-Renaissance views of man. Seminar.
Class: 3 hours a week
Prerequisite: Introduction to Literature (2123).

American Literature (2317)
Spring Semester 3 Credits
Key ideas, attitudes and values characteristic of American writing in the nineteenth and twentieth centuries. Emphasis on the tension between promise and reality, social issues and the quest for freedom as reflected in writers such as Emerson, Melville, Hawthorne, Whitman, Fitzgerald, Hemingway, Faulkner, Baldwin and Mailer.
Class: 3 hours a week
Prerequisite. Introduction to Literature (2123).

The American Comic Spirit (2319)
Fall Semester 3 Credits
Diversity of American humor as discovered through readings and discussions of representative works and an examination of the roots, growth, and varied forms of comic expression, including such rich strains as political satire, regional yarns, and sophisticated wit. Attention is given to masterpieces of comedy in literature, film, and other media.
Class: 3 hours a week
Prerequisite: Introduction to Literature (2123).

Humanities in World Literature (2321)
Spring Semester 4 Credits
Anthology in the humanities for Government majors; i.e. the interdisciplinary study of literature, the fine arts, philosophy, history, and political theory and practice. Emphasis on the contemporary world, in particular, the cultural milieus of Europe, Africa, Asia, and the Americas. Important writings bearing upon the effects of modern science on society. The purpose will be to deepen cadet's awareness of the humanistic dimensions of today's world. Special attention given to developing skills for advanced level course work and professional research through a library-oriented tutorial program.
Class: 4 hours a week
Prerequisite: Introduction to Literature (2123).

20th Cent Revolution Novels (2323)
Fall Semester 3 Credits
Study of political, social, and economic forces of revolution in world wide novels selected for their historic and social accuracy. Focus on actual 20th century revolutions as setting and background for an examination of the etiology of revolution and the spectrum of experiences due to the drastic alteration of human affairs by revolution.
Class: 3 hours a week
Prerequisites: Introduction to Literature (2123).

French III (2331)
Fall Semester 3 Credits
Intensive grammar review, speaking and writing; selected readings in French Literature; Exposure to French Nautical and Merchant Marine Terminology.
Class: 3 hours a week
Prerequisite: French II (2233).

French IV (2333)
Spring Semester 3 Credits
Intensive grammar review, speaking and writing; selected readings in French Literature; exposure to French Nautical and Merchant Marine Terminology.
Class: 3 hours a week
Prerequisite: French III (2331).

Spanish III (2335)
Fall Semester 3 Credits
Intensive grammar review, speaking and writing; selected readings in Hispanic Literature; exposure to Spanish Nautical and Merchant Marine Terminology.
Prerequisite: Spanish II (2237).

Spanish IV (2337)
Spring Semester 3 Credits
Intensive grammar review, speaking and writing; selected readings in Hispanic Literature; exposure to Spanish Nautical and Merchant Marine Terminology.
Class: 3 hours a week
Prerequisite: Spanish III (2335).

Modern Europe (2341)
Spring Semester 3 Credits
The most recent interpretive scholarship in the historical development of Europe since 1900. Seminar.
Class: 3 hours a week
Prerequisite: History of the U.S. (2241).

Modern Russia (2343)
Spring Semester 3 Credits
The collapse of Czarist Russia and the rise of the Soviet Union. Emphasis on the evolution of Communism from Marx to Krushchev and the development of Russia's foreign relations.
Class: 3 hours a week
Prerequisite: History of the U.S. (2241).

Western Political Theory (2361)
Spring Semester 4 Credits
Historical development of political philosophy in the West. Analysis of the origins of political theory leading to the study of post-medieval and modern writers: Plato, Aristotle, Augustine, Machiavelli, Hobbes, Rousseau, Burke, Marx and others. One hour lecture, three hours seminar. Individual reports, term paper are required.
Class: 4 hours a week
Prerequisites: American Government (2263).

American Political Parties (2363)
Fall Semester 3 Credits
An analysis of the structure, function, and roles of political parties and interest groups in the American political system. Topics include organization, staffing, financing, methods, points of contact with governmental processes, measurable influence, and representativeness.
Class: 3 hours a week
Prerequisite: American Government (2263).

Comparative Politics (2365)
Fall Semester 4 Credits
Comparative analysis of foreign political systems: Britain, France, China, Nigeria, Mexico and the Soviet Union. Particular attention to the relationship of political institutions to their social and cultural contexts.
Class: 4 hours a week
Prerequisites: American Government (2263)

International Relations (2367)
Spring Semester 4 Credits
Discussion of theoretical frameworks for analysis of behavior of individual states and the international system. Nationalism, national power, diplomacy, international law, and economic interdependence included among topics.
Class: 4 hours a week
Prerequisites: American Government (2263), Comparative Politics (2365)

International Organizations (2369)
Spring Semester 3 Credits
The evolution of methods of international cooperation for attaining and preserving a peaceful world and for dealing with economic, social, and political problems in the world community. Focus on the League of Nations and the United Nations.
Class: 3 hours a week
Prerequisite: International Relations (2367)

Social Psychology (2381)
Spring Semester 3 Credits
Introduction to behavior of the individual in society with particular focus upon the enduring principles of human contact. Exploration of social issues and concepts such as affiliation, attribution, values, authority, sexism, ethnicity, violence and aggression. Term paper.
Class: 3 hours a week
Prerequisite: Human Behavior (2281).

Colonial America (2411)
Fall Semester, Even Numbered Years 3 Credits
The founding and the political, social, economic, and intellectual development of the British North American colonies. English colonial policy, the development of government in the colonies in the 18th century, and the remote and immediate causes of the American Revolution. Seminar.
Class: 3 hours a week
Prerequisite: History of the U.S. (2241).

Documentary Film & America (2413)
Fall Semester 3 Credits
Use of documentary film to examine the relationship between social conditions and the cultural expression of those conditions. Films as history and as propaganda. Emphasis on films as documents of the depression, World War II, the Home Front, the Cold War, the Movement for Civil Rights, the Vietnam Conflict, Civil Disobedience, and the Cultural Revolution of the Sixties, readings and reports on the basics of visual communications, on film analysis and criticism, and on related historical and cultural themes.
Class: 3 hours a week
Prerequisites: Introduction to Literature (2123).

Directed Studies in Humanities (2421)
Fall and Spring Semesters 3 Credits
Advanced tutorial concentrating on a specific topic in literature, philosophy, the arts or foreign languages. Intensive reading and consultation with a faculty member culminating with a major research paper. Limited to advanced students with previous significant course work in humanities.
Class: 3 hours a week
Prerequisite: Approval of faculty tutor and Department Head.

Seminar in Marine Affairs (2433)
Spring Semester 3 Credits
Contemporary issues impacting on the oceans and evaluation of those issues as competing or complementary elements of a comprehensive national ocean policy. Issue areas include marine fisheries, mineral resources of the seabed and subsoil, continental shelf oil and gas development, coastal zone management, ocean transportation, changing ocean regimes, national security interests, and government reorganization in ocean fisheries. Seminar.
Class: 3 hours a week

The Civil War (2441)
Fall Semester 3 Credits
Causes of the Civil War, its course and reconstruction of the Nation. Seminar.
Class: 3 hours a week
Prerequisites: History of the U.S. (2241).

Directed Study in History (2459)
Fall and Spring Semesters 3 Credits
Advanced tutorial concentrating on a specific research topic in history. A program of intensive reading and consultation with a faculty member culminating in a major research paper. Limited to advanced students who have completed significant course work in history.
Class: 3 hours a week
Prerequisite: Approval of Academic Advisor and Department Head.

Congress and Presidency (2461)
Fall Semester 4 Credits
Examination of the institutions of the Congress and the Presidency within the context of the American political system. The course will focus upon the peculiar nature of each institution as well as their interrelation. Readings of Burns, Neustadt, Barber, Fenns, Wildavsky and others will be included.
Class: 4 hours a week
Prerequisite: American Foreign Policy (2261).

U.S. Maritime History & Politics (2463)
Spring Semester 4 Credits
American maritime industry in its historical setting with emphasis on the changing role of maritime transport in American history, the evolution of sea lanes in wartime and the relationship of the Coast Guard to Maritime and Naval History. Seminar.
Class: 4 hours a week
Prerequisite: History of the U.S. (2241).

Military Policy (2465)
Fall Semester 3 Credits
War, society, and the military profession in the modern world. Reading and discussion of the writings of Clausewitz, Halperin, Huntington, Janowitz, Kissinger, Millis, and Knorr. Emphasis on the conceptual basis of military professionalism. Seminar.
Class: 3 hours a week
Prerequisites: American Government (2263); History of the U.S. (2241).

Gobal Policy Studies (2467)
Spring Semester 3 Credits
Interdisciplinary study of basic factors in the global environment, such as population, food, energy, and natural resources, and the implications for international relations, and transnational policy. Simulation models of political, economic, social, and cultural alternatives for global policy.
Class: 3 hours a week
Prerequisite: International Relations (2367).

National Security Policy (2469)
Fall Semester 4 Credits
Dimensions, dilemmas and current policies of national security addressed. Weapons systems, threats within the international environment, strategies and tactics, assessed with regard to present and future defense needs. War game played. Seminar.
Class: 4 hours a week
Prerequisite: American Government (2263).

Area Studies in Political Development (2471)
Fall Semester 3 Credits
The role of historic, social, economic and cultural forces in the political system of a nation or a geographic area. Area studied based upon teaching resources in the department.
Class: 3 hours a week
Prerequisite: History of the U.S. (2241)

Directed Study in Government (2479)
Fall and Spring Semesters 3 Credits
Advanced tutorial concentrating on a specific research topic on government. A program of intensive reading and consultation with a faculty member culminating in a major research paper. Limited to advanced students who have completed significant course work in government.
Class: 3 hours a week
Prerequisite: Approval of Academic Advisor.

Human Differences (2481)
Spring Semester 3 Credits
Surveys various aspects of human differences including differences in gender, age, race, and culture. Emphasis on critical evaluations of theory and research methodology.
Class: 3 hours a week
Prerequisites: General Psychology (2281)

Directed Study in Psychology (2489)
Fall and Spring Semesters 3 Credits
Advanced tutorial concentrating on a specific topic in psychology. A program of intensive reading and consultation with a faculty member, culminating in a major research paper. Limited to advanced students who have completed significant work in psychology.
Class: 3 hours a week
Prerequisites: Social Behavior (2381) and Approval of Academic Advisor, Department Head.

MATHEMATICS

Introduction to Calculus (3107)
Fall Semester 4 Credits
Study of the college algebra, trigonometry, and analytic geometry necessary for an understanding of calculus. Elementary differentiation and integration.
Class: 4 hours a week

Calculus I (3111)
Fall or Spring Semester 4 Credits
Fundamental concepts of differential and integral calculus; analytic geometry and the differentiation and integration of algebraic, trigonometric, inverse trigonometric, exponential, and logarithmic functions.
Class: 4 hours a week

Calculus I (Honors) 3113)
Fall Semester 4 Credits
Same topics as Calculus I (3111) and additional topics, treated in more depth and at a pace consistent with the ability of the class.
Class: 4 hours a week
Prerequisite: Approval of Mathematics Department.

Calculus II (3117)
Fall and Spring Semesters 4 Credits
Extension of fundamental concepts of differential and integral techniques, applications of definite integrals, improper integrals and infinite series.
Class: 4 hours a week
Prerequisite: Calculus I (3111).

Calculus II (Honors) (3119)
Spring Semester 4 Credits
Same topics as Calculus II (3117) and additional topics, treated in more depth and at a pace consistent with the ability of the class.
Class: 4 hours a week
Prerequisites: Calculus I Honors (3113) and approval of the Mathematics Department.

Multivariable Calculus (3211)
Fall and Spring Semesters 3 Credits
Introduction to differential and integral calculus for functions of several variables; partial differential, and multiple integration.
Class: 3 hours a week
Prerequisite: Calculus II (3117).

Probability and Statistics (3213)
Fall or Spring Semester 3 Credits
An appreciation of mathematical statistics. Understanding of basic principles, development of familiarity with computation, probability theory, sampling distributions, statistical inference, regression, and nonparametric statistics. Not open to those cadets who have passed Probability (3357).
Class: 3 hours a week
Prerequisite: Calculus II (3117).

Differential Equations (3215)
Fall and Spring Semesters 3 Credits
Intermediate course in the methods of solving ordinary differential equations. First order equations, higher order linear equations with constant coefficients, Laplace transforms, systems of equations, power series solutions, and applications.
Class: 3 hours a week
Prerequisite: Calculus II (3117).

Linear Algebra (3231)
Fall Semester 4 Credits
Study of mathematical systems with emphasis on vector spaces, linear transformations and matrices. Systems of linear equations, vector spaces, linear mappings, matrices, determinants, and eigenvalue problems.
Class: 4 hours a week

Advanced Calculus (3311)
Fall Semester 3 Credits
A rigorous approach to the concepts of limits, continuity, differentiation, integration, and infinite series of a single variable.
Class: 3 hours a week
Prerequisite: Multivariable Calculus (3211)

Advanced Engineering Mathematics (3315)
Spring Semester 3 Credits
Application of mathematical techniques to engineering problems. Fourier series and integrals, complex variable theory, and transform methods.
Class: 3 hours a week
Prerequisite: Differential Equations (3215)

Numerical Analysis (3351)
Spring Semester 4 Credits
Introduction to numerical quadrature and numerical interpolation techniques with emphasis on convergence and error techniques on the digital computer. Investigation of solutions of differential equations by numerical methods.
Class: 4 hours a week

Mathematical Modelling (3353)
Spring Semester 3 Credits
First course in the development of mathematical models with application to social science, life science, engineering, physical science and management. Emphasis on problem definition, creative mathematical formulation, identification of assumptions, and model validation. Includes deterministic and probabilistic models, Markov Chains, and simulation techniques.
Class: 3 hours a week
Prerequisites: (3213) or (3257), (3215) and (3211)

Mathematical Programming (3355)
Spring Semester 3 Credits
Theory and application of methods for determining the maximum and minimum of functions of many variables subject to constraints. Linear programming, gradient methods, simplex based methods, geometric programming, dynamic programming, integer programming, and heuristic programming.
Class: 3 hours a week
Prerequisite: Multivariable Calculus (3211)

Probability & Statistics Application (3357)
Fall Semester 3 Credits
A rigorous development of probability theory necessary for advanced work in mathematics, statistics, operations research, physical sciences, and engineering. Sample spaces, probability measures, discrete and continuous random variables, functions of random variables, and the central limit theorem; some application to statistical inference and hypothesis testing.
Class: 3 hours a week
Prerequisite: Multivariable Calculus (3211)

Mathematical Statistics (3359)
Spring Semester 3 Credits
A mathematical development of statistical procedures such as point estimation, hypothesis testing, sampling, goodness of fit, and analysis of variance; with application to regression analysis and experimental design.
Class: 3 hours a week
Prerequisites: Probability & Statistics (3213) or Probability & Statistics Application (3357)

Operations Analysis (3361)
Spring Semester 3 Credits
Application of mathematics, computer science and operations research techniques to operational problems of the Coast Guard will be explored using case studies of both existing models and development of new ones. Mathematical modelling using both deterministic and probabilistic methods. An interdisciplinary course taught by faculty in departments of Mathematics, Computer Science, Nautical Science and Law, and Management/Economics.
Class: 3 hours a week
Prerequisites: Probability & Statistics (3213), Computer Fundamentals (7101)

Partial Differential Equations (3419)
Fall Semester 3 Credits
An introduction to the formulation and solution of problems involving partial differential equations. Origins of partial differential equations, linear and nonlinear equations of the first order, Fourier series, linear equations of the second and higher order, nonlinear equations of the second order, and numerical methods.
Class: 3 hours a week
Offered in odd numbered years (3211)
Prerequisites: Multivariable Calculus (3211) and Differential Equations (3215)

Complex Variables (3421)
Spring Semester 3 Credits
Development of those parts of the classical theory of complex variable most prominent in the application of the subject. Residue theory and contour integrals and applications of conformal mapping to problems in potentials, steady temperatures, and flow of fluids.
Class: 3 hours a week
Prerequisite: Multivariable Calculus (3211).

Algebraic Structures (3435)
Fall Semester 3 Credits
An introduction to the fundamental concepts of abstract algebra: groups, rings, fields, and polynomials.
Class: 3 hours a week

Design of Experiments (3465)
Spring Semester 3 Credits
Fundamental concepts in the design of experiments: completely randomized designs, randomized complete block designs, Latin square designs, and factorial arrangements.
Class: 3 hours a week
Prerequisite: Probability and Statistics (3213) or Probability & Statistics Application (3357)

Directed Studies in Mathematics (3479)
Fall and Spring Semesters 3 Credits
Provides the more capable cadet an opportunity to pursue a semester or more of individual work on a project of his or a faculty member's choosing. These Directed Studies are usually taken as overloads.
Class: 3 hours a week
Prerequisites: Recommendation of Academic Advisor and approval of Department Head.

PHYSICAL EDUCATION

Physiology of Fitness (4101) (Eight weeks)
Fall and Spring Semesters ½ Credit per semester
Introduction to the human body and its structure, physiology and limitations in relation to varying degrees of physical activity. Special emphasis on understanding and appreciating the development of physical potential and maintenance of satisfactory physical condition. Practical application of discussion material in an activity setting.

Survival Swimming (4102) (Eight weeks)
Fall and Spring Semesters ½ Credit per semester
Offers Fourth Class cadets opportunities to develop high degrees of skill to insure survival in open water, to develop swimming skills essential to personal enjoyment in the water and general recreational swimming, to raise their level of physical fitness and stamina for swimming and to develop positive attitudes relative to general water safety.

Personal Defense I (4103) (Eight weeks)
Fall and Spring Semesters ½ Credit per semester
Introduction to basic techniques of falls and personal encounter movements. The technique of utilizing leverage, speed and flexibility to compensate for lack of strength will be emphasized.

Gymnastics (4104) (Eight weeks)
Fall and Spring Semesters ½ Credit per semester
Major emphasis on gymnastics apparatus activities of all types. Gymnastics exercises in the six Olympic events for men—parallel bars, long horse, side horse, still rings, horizontal bar and floor exercise, and four Olympic events for women—floor exercise, balance beam, uneven parallel bars and vaulting. Also trampoline exercises and advanced tumbling.

Fundamentals of Conditioning (4201) (Eight weeks)
Fall and Spring Semesters ½ Credit per semester
Methods and materials of conditioning and body mechanics. Emphasis placed upon total body development investigated by means of aerobic, weight and flexibility training in addition to the fundamentals of human motion and rhythm coordinated with sound and music.
Prerequisite: Physiology of Fitness (4101).

Advanced Swimming (4202) (Eight weeks)
Fall and Spring Semesters ½ Credit per semester
Elements of competitive swimming, springboard diving, skin diving, water polo, and elementary forms of rescue. Importance of aquatic activities in cadet's life and Coast Guard career, with emphasis on development of courage, spirit, fitness, stamina, and positive attitude toward general water safety.
Prerequisite: Survival Swimming (4102).

Racquetball (4205) (Eight weeks)
Fall and Spring Semesters ½ Credit per semester
Emphasis on proper court positioning, basic strokes, types of serves, playing shots off the walls and ceilings. Rules and basic strategy stressed. Competition offered within the class in singles and doubles.

Beginning Tennis (4207) (Eight weeks)
Fall and Spring Semesters ½ Credit per semester
Fundamentals of grip, stance and footwork included in early session. Emphasis on the forehand drive, backhand drive, service, volley and overhead game. Rules and basic strategy included.

First Aid/CPR (4301) (Eight weeks)
Fall and Spring Semesters ½ Credit per semester
First Aid/CPR: This course provides a modular system approach to first aid and cardio-pulmonary resuscitation. Emphasis will be placed upon the recognition and general emergency treatment of bodily injury and cardio-pulmonary accidents. Basic First Aid and CPR certification will be awarded.
Prerequisite: Foundations of Physical Activity (4101).

Lifesaving (4302) (Eight weeks)
Fall and Spring Semesters ½ Credit per semester
Instruction in lifesaving techniques applied to specific Coast Guard uses. Techniques of approaches, parrying, releases, and carrying a victim. Use of heaving lines and ring buoys, with special emphasis on resuscitation.
Laboratory: 3 hours a week
Prerequisite: Advanced Swimming (4202) and Survival Swimming (4102).

Personal Defense II (4303) (Eight weeks)
Fall and Spring Semesters ½ Credit per semester
Advance defensive techniques in a variety of situations. Man to man, man to woman, and woman to woman encounters.
Prerequisite: Personal Defense I (4103).

Golf (4306) (Eight weeks)
Fall and Spring Semesters ½ Credit per semester
Fundamentals of the proper grip, stance, and swing. Proper use of irons, woods, and putter emphasized. Rules, course etiquette, and instruction on techniques. Competitive shooting for objectives incorporated in daily lessons. Actual participation on a local course, with final sessions stressing situation golf and unusual shots.

Scuba Diving (4402)
Fall and Spring Semesters 0.2 Credit
Heavy emphasis on physical fitness. Safety practices and attitudes for skin and scuba diving activities. Care, selection, use, and maintenance of all types of sports diving equipment, as well as medical and theoretical aspects of diving.
Laboratory: 1 hour a week
Prerequisite: Lifesaving (4302).

Modern Dance and Jazz (4404)
Fall and Spring Semesters 0.2 Credit
In-depth study of modern dance and jazz. Emphasis on development of technique, grace, flexibility and rhythmic interpretations of physical conditioning.
Laboratory: 1 hour a week

Advanced Raquetball (4405)
Fall and Spring Semesters 0.2 Credit
Emphasis on proper court positioning, basic strokes, types of serves, playing shots off walls and ceiling. Rules and basic strategy stressed. Competition offered within the class in singles and doubles.
Laboratory: 1 hour a week

Advanced Golf (4406)
Fall 0.2 Credit
Combines eight weeks of intensive golf instruction and participation on nearby courses.
Laboratory: 1 hour a week

Water Safety Instructor (4408)
Fall and Spring Semesters 0.2 Credit
Review of basic and advanced swimming, diving, and lifesaving. Leadership experiences in organizing and conducting an effective program of water safety.
Laboratory: 1 hour a week
Prerequisite: Lifesaving (4302).

Ecology Sports I (4409)
Fall Semester 0.2 Credit
Physically demanding outdoors activities blended with deeper appreciation of nature and the interrelationships of living things. Rock climbing, wilderness camping, spelunking, mountaineering, orienteering, and wilderness navigation.
Laboratory: 1 hour a week

Ecology Sports II (4410)
Spring Semester 0.2 Credit
Physically demanding outdoor activities blended with deeper appreciation of nature and the interrelationships of living things. Course content includes: cross country skiing, winter mountaineering; survival skills and wilderness emergency first aid; canoeing, white-watercanoeing, and kayaking.
Laboratory: 1 hour a week

Selected Sports (4411)
Fall and Spring Semesters 0.2 Credit
Advanced sports skills and participation in a variety of lifetime sports skills. Individual condition programs are also emphasized.
Laboratory: 1 hour a week

Leadership in Physical Education (4412)
Fall and Spring Semesters 0.2 Credit
Elective for eight week period (two per semester). Cadets assigned to underclass activity where they assist instructor in all phases of instruction.
Laboratory: 1 hour a week

Skiing (4413)
Spring 0.2 Credit
Spring semester elective at nearby ski area. Fundamental skiing including snowplow turn, stem turn, stem christie turn, parallel turn, and short swing of wedel. Instruction geared to individual level of proficiency.
Laboratory: 1 hour a week

SCIENCE

CHEMISTRY COURSES

Chemistry (5102)
Fall and Spring Semesters 4 Credits
Atomic and molecular structure, stoichiometry, chemical equations, Bohr and wave model of the atom, electron configuration, molecular bonding stressing VSEPR, hybridization, molecular orbital theory (MOT) and Lewis structures. Descriptive chemistry, periodic table, organic nomenclature, ideal gas law, kinetic theory of gases, colligative properties, acid-base reactions and redox reactions. Laboratory to parallel class discussion.
Class: 3 hours a week
Laboratory: 3 hours a week (10 sessions a semester)

Chemistry I Honors (5104)
Fall Semester 4 Credits
Covers essentially the same material as 5102 but at a greater depth and with a stronger emphasis on the theoretical aspects. Designed for students entering the Physical Sciences major and is also recommended for others with a special interest in chemistry.
Class: 3 hours a week
Laboratory: 3 hours a week (10 sessions a semester)
Prerequisite: Approval of the Chemistry Section Chief.

Chemistry II (5106)
Fall and Spring Semesters 4 Credits
Chemical Equilibrium, 1st, 2nd and 3rd Laws of Thermodynamics stressing enthalpy, entropy, free energy and their relation to chemical reactions and equilibrium, electrochemistry, chemical kinetics and nuclear chemistry. Laboratory to parallel class discussion.
Class: 3 hours a week
Laboratory: 3 hours a week (10 sessions a semester)
Prerequisite: Chemistry I (5102)

Chemistry II Honors (5108)
Spring Semester 4 Credits
Topic areas covered include: acid base theories, coordination compounds, thermodynamics, equilibria, and reaction kinetics. Designed for those entering the Physical Science major, this course would also represent a solid introduction to thermodynamics and reaction kinetics for engineering students.
Class: 3 hours a week
Laboratory: 3 hours a week (10 sessions a semester)
Prerequisite: Chemistry I Honors (5104)

Inorganic Chemistry (5201)
Fall Semester 3 Credits
Theoretical approach to atomic and molecular structure; acid-based theories; coordination chemistry; selected topics from the descriptive chemistry of the elements; organometallic chemistry.
Class: 3 hours a week
Prerequisite: Chemistry II (5106) or Chemistry II Honors (5108)

Organic Chemistry (5202)
Spring Semester 3½ Credits
Chemical reactivity of organic compounds approached from a functional group viewpoint: hydrocarbons, alkyl halides, alcohols, carbonyl compounds, amines and aromatics; laboratory: introduction to important techniques of organic chemistry as well as the preparation of simple compounds and analysis using gas chromatography, nuclear magnetic resonance, and infrared spectroscopy.
Class: 3 hours a week
Laboratory: 3 hours biweekly
Prerequisites: Chemistry II (5106) or Chemistry II Honors (5108)

Physical Chemistry I (5312)
Fall Semester 3½ Credits
States of matter and their properties; laws of thermodynamics; phase equilibria; chemical equilibria; electrochemical cells; kinetics.
Class: 3 hours a week
Laboratory: 3 hours biweekly
Prerequisite: Chemistry II (5106) or Chemistry II Honors (5108)
Corequisite: Multivariable Calculus (3211)

Physical Chemistry II (5322)
Spring Semester 3½ Credits
Quantum theory; statistical mechanics; electronic structure; molecular spectroscopy, magnetic resonance; irreversible processes in solution; crystal structures and solid state.
Class: 3 hours a week
Laboratory: 3 hours biweekly
Prerequisite: Physical Chemistry I (5312)

Analytical Methods (5412)
Fall Semester 4 Credits
Theory behind various analytical techniques, investigation of the application of these techniques and methods for the analysis of the composition, structure, and properties of pure compounds and of mixtures. Emphasis on those techniques most useful for analysis problems encountered in Coast Guard applications: Chromatography, atomic absorption, ultraviolet, infrared and nuclear magnetic resonance spectroscopy; mass spectrometry; Wet chemical methods.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisite: Chemistry II (5106) or Chemistry II Honors (5108)

Hazardous Materials (5415)
Spring Semester 3½ Credits
Chemistry of fire and fire extinguishment; classes, toxicity and labelling of chemicals and description of their hazards; LNG hazards and vessel transportation; cargo compatibility. Description and use of various hazard identification and response resources, including on-line computer. Means of controlling and removing hazardous chemicals; CG Strike Teams; pollution aspects of chemical spills.
Class: 3 hours a week
Laboratory: 3 hours biweekly
Prerequisites: Chemistry II (5106) or Chemistry II Honors (5108)

Projects in Chemistry (5421)
Fall and Spring Semesters 1 Credit
Allowance for credit to be given to cadets assisting in research and laboratory projects. These projects at times can require short term aid in the form of data reduction, replicate analysis and so forth. One academic credit is given in recognition for the time spent on the project and the knowledge gained through interaction with the research. This course does not fulfill the requirements of courses needed for the degree and must be taken as an overload.
Laboratory: 3 hours a week
Prerequisite: Approval of Chemistry Section Chief.

Research in Chemistry (5429)
Fall and Spring Semesters 3 Credits
Individual programs of advanced readings, project laboratories of combined team projects in the area of chemistry; arrangements to suit particular cadet or team and faculty involved with appropriate approval required from particular section concerned.
Class: 3 hours a week
Prerequisite: Approval of Advisor and Department Head.

PHYSICS COURSES

Physics I (5262)
Fall and Spring Semesters 4 Credits
Basic concepts of Newtonian mechanics, vector algebra, particle kinematics and dynamics, conservation laws, wave motion, nuclear physics.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisite: Calculus I (3111).

Physics I Honors (5264)
Fall Semester 4 Credits
Same as Physics I but treatment in greater depth and at a pace consistent with the ability of honors students.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisite: Calculus II (3117).

Physics II (5266)
Fall and Spring Semesters 4 Credits
Electrostatics, magnetostatics, circuit theory, motion of particles in fields, optics, interference, reflection, and refraction of light.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisite: Calculus II (3117) or Calculus II Honors (3119), Physics I (5262).

Physics II Honors (5268)
Spring Semester 4 Credits
Same as Physics II but treatment in greater depth and at a pace consistent with the ability of honors students.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisites: Physics I (5262) or Physics I Honors (5264), Calculus II Honors (3119).

Modern Physics (5362)
Fall Semester 4 Credits
Theoretical and experimental studies of important modern physical concepts. Relativity, quantum mechanics.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisite: Physics II (5266) or Physics II Honors (5268).

Semiconductor Physics (5364)
Spring Semester 4 Credits
Properties of semiconductors. Crystalline structure, electron energy levels, impurity levels, electrical conduction. Application to p-n junctions.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisite: Physics II (5266) or Physics II Honors (5268).

Astronomy (5366)
Spring Semester 4 Credits
Introduction to general topics of modern astronomy; methods of observing astronomical objects and interpreting data; the solar system, stellar structure and evolution; galaxies and cosmology; Academy observatory facilities utilized.
Class: 3 hours a week
Laboratory: 3 hours a week

Directed Studies in Physics (5389)
Fall and Spring Semesters 3 Credits
Individual program of advanced readings or laboratory projects in physics, chemistry or ocean science.
Class: 3 hours a week
Prerequisite: Approval of Physics Section Chief.

Nuclear Physics (5464)
Spring Semester 4 Credits
Constitution of nuclears, radioactivity, alpha, beta and gamma decay, radiation detection and analysis.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisites: Physics II (5266) or Physics II Honors (5268).

Optics (5477)
Fall Semester, Even Numbered Years 3 Credits
Reflection, refraction, and their applications to lens systems and instruments. Wave propagation, dispersion, diffraction, polarization. Modern optics.
Class: 3 hours a week
Prerequisites: Physics II (5266) or Physics II Honors (5268).

MARINE SCIENCE COURSES

Marine Biology (5232)
Spring Semester 4 Credits
Consideration of the marine biosphere and its environmental subdivisions, with emphasis on interaction in food chains and basic productivity. The divisions of both the plant and the animal kingdom are reviewed in terms of the adaptations and ecological adjustments for marine habitats, with specific forms given detailed examination in the laboratory. Limited consideration of fisheries biology and aspects of the commercial fisheries under Coast Guard regulation.
Class: 3 hours a week
Laboratory: 3 hours a week

Geoscience (5242)
Fall Semester 4 Credits
An introduction to the components of the lithosphere, hydrosphere and atmosphere and the interaction of these realms, with special emphasis on the basic geological concepts of plate tectonics and the geophysical circulation patterns for ocean systems and weather. Laboratory practice in daily and longer range weather forecasting from field data, also rock identification, sediment analysis and geological map interpretation.
Class: 3 hours a week
Laboratory: 3 hours a week

Projects in Marine Science (5247)
Fall and Spring Semesters 1 Credit
Allowance for credit to be given to cadets assisting in research and laboratory projects. These projects at times can require short term aid in the form of data reduction, replicate analysis and small boat handling. One academic credit is given in recognition for the time spent on the project and the knowledge gained through interaction with the research. This course does not fulfill the requirements of courses needed for the degree and can be taken only as an overload.
Laboratory: 3 hours a week

Oceanography I (5330)
Fall and Spring Semesters 3⅓ Credits
Physical, chemical, biological and geological aspects of the ocean as they affect the mariner; meteorology; pollution ecology; fisheries regulation; coastal processes; currents; waves and tides.
Class: 3 hours a week
Laboratory: 1 hour a week
Prerequisite: Physics I (5262).

Physical Oceanography (5338)
Spring Semester 4 Credits
Introductory presentation of forces affecting current flow and movement of water masses. Included will be geostrophic dynamics, thermohaline circulation, Ekman layer dynamics and wind-driven surface motions. Airy wave theory and statistical approach to wave forecasting will be emphasized. Labs will stress field work, computer problem solving and modeling.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisite: Geophysical Fluid Dynamics (5351)

History of Science (5347)
Fall Semester 3 Credits
Development of western science from Greek Civilization to the present, special emphasis on important scientific revolutions (Copernican, Newtonian, Darwinian) and implications of an expanding technology
Class: 3 hours a week

Geophysical Fluid Dynamics (5351)
Fall Semester 3 Credits
Introduction to physical oceanography in which basic principles of fluid mechanics are related to oceanic applications. The focus will be on physical description and mathematical formulation of the fundamental concepts governing large scale fluid motion. Specifically covered will be continuity, the equations of motion on a rotating frame of reference with application to major currents, various body and surface forces, including viscous and turbulent friction, in relation to wind driven currents, and the vorticity equation as applicable to models of oceanic circulation.
Class: 3 hours a week
Prerequisite: Differential Equations (3215) but may be taken concurrently

Marine Pollution (5441)
Fall Semester 3 Credits
Consideration of the various marine environmental problems of concern to the nation, such as radioactive waste disposal at sea, sewage disposal methods, ocean dumping, oil spills and cleanup, with case histories and techniques for environmental monitoring. Government planning for coastal zone management at local, national and international levels examined for specific regions.
Class: 3 hours a week

Regional Oceanography (5447)
Spring Semester 3 Credits
Initial segment focuses on polar oceanography including ice physics, ice breaking, geography, climate, circulation, and exploration. Consideration of the origin of the ice ages. Characterization and circulation of the major ocean water masses. Experience is provided in the writing and presenting of a scientific paper.
Class: 3 hours a week
Prerequisite: Physical Oceanography (5338)

Research in Marine Science (5459)
3 Credits
Individual programs of advanced reading, project laboratories or combined team projects in marine science; arrangements to suit particular cadet or team and faculty members.
Class: 3 hours a week
Prerequisite: Approval of Academic Advisor and Department Head.

NAUTICAL SCIENCE AND LAW

Coastal Navigation (6112)
Fall Semester 3.7 Credits
Introduction to terrestrial navigation, maneuvering boards and the rules of the nautical road. Familiarization with piloting principles and techniques, navigational instruments, nautical charts and publications. Identification and use of Aids to Navigation. Magnetic and gyro compass theory and problem solution. Theory of tides and tidal currents and problem solution. Introduction to theory and use of electronic navigation equipment such as radar, LORAN C, Omega and radio beacons, and their operational applications. Solution of relative motion problems involving change of Closest Point of Approach, Intercept, Stationing and Wind.
Class: 3 hours a week
Laboratory: 2 hours a week

Celestial Navigation (6114)
Spring Semester 3.7 Credits
Introduction to celestial navigation. Theory of the celestial and navigational triangles and methods of solution for obtaining lines of position. Determination of gyro error by exact azimuth and amplitude. Identification of stars and use of starfinders. Solution of the fundamental concepts of time. Introduction to the Universal Plotting Sheet and navigation publications such as the Nautical Almanac, Pub. 229 and Pub. 249. Determination of latitude by the Sun and Polaris. Emphasis on plotting proficiency and the complete celestial solution. Theory and use of the marine sextant.
Class: 3 hours a week
Laboratory: 2 hours a week

Legal Systems (6345)
Fall and Spring Semesters 4 Credits
Introduction to Law. Brief examination of fundamental nature of law and federal judicial system. Military Law, including jurisdiction, search and seizure, self-incrimination, non-judicial punishment and court-martial procedure. Fact-finding in Coast Guard and preparation of an informal investigation Report. (Civil liability of U.S. arising from Coast Guard activities.) Introduction to International law. (Asylum) (Miscellaneous federal legal requirements, including Freedom of Information, Privacy Act, employee responsibilities and conduct.)
Class: 4 hours a week
Prerequisites: Limited to 1st and 2nd Class Cadets; 3rd Class Cadets may enroll only with the approval of Academic Advisor and Department Head

Shipboard Operations/Communications (6416)
Fall Semester 4 Credits
Seamanship theory. Comprehensive review of coastal navigation. Theory and practice of Coast Guard communications. Navigation project required.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisites: Coastal Navigation (6112), Celestial Navigation (6114)

Shipboard Administration/OOD Skills (6418)
Spring Semester 3.7 Credits
Preparation for first duty assignment. Shipboard organization, Division Officers duties, Supply, Personnel, Missions, and OOD skills. Comprehensive study of International and Inland Rules of the Road culminating in Deck Watch Officer Rules of the Road exam. Rapid Radar Plotting and Parallel Index Techniques.
Class: 3 hours a week
Laboratory: 2 hours a week
Prerequisites: Coastal Navigation (6112), Celestial Navigation (6114)

Directed Studies in Nautical Science (6439)

Fall and Spring Semesters 3 Credits

Program for cadets with an interest in advanced nautical science. Opportunity for intensive reading, research, and consultation with faculty members culminating in a major project or research paper in the field of nautical science.

Class: 3 hours a week

Prerequisites: (6112), (6114), Approval of Academic Advisor and Department Head

Advanced Maritime Law (6445)

Fall Semester 3 Credits

Examination of domestic and international law applicable to uses of the sea for navigation, research, military purposes and exploration of living and non-living resources. Rights and liabilities arising out of maritime torts and contracts. Principles of Collision law, Salvage, General average, Charters, Towage and Pilotage. Maritime environmental protection schemes. Sanctions and remedies for marine pollution damages. Research paper required.

Class: 3 hours a week

Maritime Law Enforcement (6447)

Fall or Spring Semester 3 Credits

Examination of law enforcement authority and activity, with emphasis on the maritime law enforcement role of the Coast Guard. In-depth analysis is undertaken in several areas of law enforcement activities, including the law of arrest, detention, search and seizure, examination, inspection, inquiry, interrogation (self-incrimination), and the use of force. The subject of law enforcement jurisdiction is thoroughly examined, including a study of the complex domestic law - international law interface. The concept of "federalism", as it applies to federal law enforcement activities, is also studied. The course concludes with a review of the several law enforcement program sanctions (criminal and civil) and an introduction to administrative law and rule-making.

Class: 3 hours a week

Prerequisite: Limited to 1st Class Cadets; 2nd Class Cadets may enroll only with approval of Academic Advisor and Department Head.

Legal Affairs (6449)

Spring Semester 3 Credits

Introduction to civil law in personal context. Examination of variety of subjects, including family law, contracts, secured transactions, commercial paper, real property, insurance, tax law, wills, trusts, estate planning and consumer protection. Legal principles applicable to management of personal legal matters, administration, and counseling.

Class: 3 hours a week

Constitutional Law (6459)

Spring Semester 3 Credits

Constitution and Supreme Court interpretation, including such concepts as: judicial review, separation of powers, federalism, civil liberties, and inter-state commerce and transportation regulation. Approached in legal and historical contexts through selected readings and analyses of Supreme Court cases. In-depth research paper is required.

Class: 3 hours a week

Directed Study in Law (6469)
Fall and Spring Semesters 3 Credits
Advanced tutorial concentrating on specific legal topic related to Coast Guard's missions. Provides more capable cadet an opportunity for intensive reading, research and consultation with faculty member culminating in a major research paper. Work programmed jointly by student and faculty member.
Class: 3 hours a week
Prerequisites: Legal Systems (6345) and approval of Academic Advisor and Department Head.

COMPUTER SCIENCE

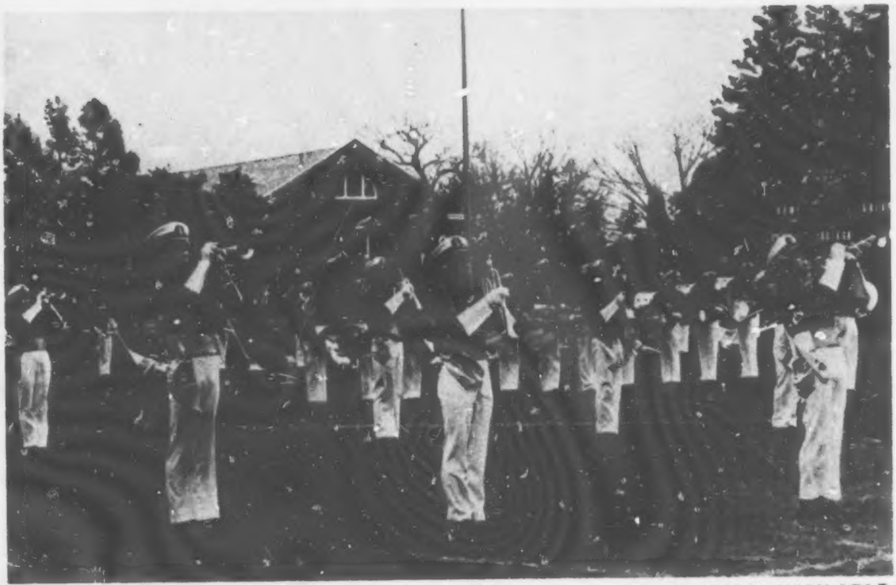
Computer Fundamentals (7101)
Fall and Spring Semesters 3 Credits
Introduction to computer science and the algorithmic process. Problem definition, logical design, flowcharting and programming. Coding of representative algorithms in a high-order language. Applications to mathematics, science, engineering, computer hardware, software packages, operating systems.
Class: 3 hours a week

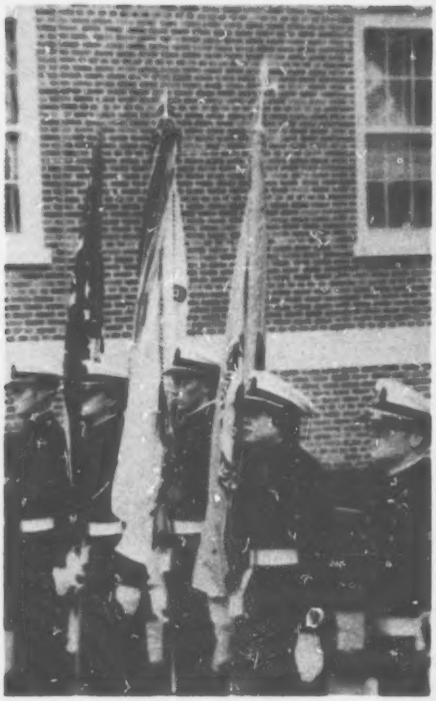
Technical Programming (7201)
Spring Semester 4 Credits
Second level computer programming course, in-depth study of algorithms for sorting, searching, numerical computation and non-numeric applications. Data structures, computer graphics, software packages for statistics and calculation. Emphasis on production of modular programs using structured design methodology.
Class: 3 hours a week
Laboratory: 3 hours a week
Prerequisite: Computer Fundamentals (7101).

Computer Science Tutor (7301)
Fall and Spring Semesters 1 Credit
Cadets with demonstrated expertise in computer science assist other cadets with class and laboratory assignments. All work is carried out under the direct supervision of the faculty. Duties may include classroom instruction, project direction, development of audio/visual materials and cadet consultation.
Class: 3 hours a week
Prerequisite: Computer Fundamentals (7101).

Computer Organization (7302)
Spring Semester
A foundation for more advanced study in computer science. Investigation of computer structure, machine language programming, symbolic coding and assembly systems, procedure and problem oriented language, data structures, program linkage, and translators.
Class: 3 hours a week
Laboratory: 2 hours a week
Prerequisite: Computer Fundamentals (7101).

Systems Analysis (7304)
Fall Semester 3.7 Credits
Analysis, Design and Implementation of automated systems. Life cycle, organizational impact, personnel and equipment are considered using a case study approach and a semester project.
Class: 3 hours a week
Laboratory: 2 hours a week
Prerequisite: Computer Fundamentals (7101)





Data Structures (7306)

Spring Semester 3.7 Credits

Study of data structures and algorithms related to file processing. Included are internal and auxiliary storage designs. Capabilities and limitations of computers, relating to data collection and reduction. File management techniques and the organization and management of computer/information systems.

Class: 3 hours a week
Laboratory: 2 hours a week
Prerequisite: Computer Fundamentals (7101), Computer Organization (7302).

Programming Languages (7308)

Spring Semester 3.7 Credits

Syntax, semantics, structure and other features of programming languages. Selection criteria, advantages and disadvantages of high level languages used for scientific and commercial applications. Detailed study of several languages.

Class: 3 hours a week
Laboratory: 2 hours a week
Prerequisite: Computer Fundamentals (7101)

Directed Studies in Computer Science (7401)

Fall and Spring Semesters 3 Credits

Individual project work planned jointly by a cadet and designated faculty member. Topics are carefully selected to fit the interests and capabilities of the cadet with the expertise of the faculty and often the needs of the academy.

Class: 3 hours a week
Prerequisite: Computer Fundamentals (7101).

Computer Architecture (7402)

Spring Semester 3.7 Credits

Comprehensive study of computing machines with particular emphasis on mini and micro computers. Hardware organization, interfacing, software and applications. Use of available microcomputers for laboratory and project work.

Class: 3 hours a week
Laboratory: 2 hours a week
Prerequisite: Computer Fundamentals (7101), Computer Organization (7302)

Computer Simulation (7404)

Fall Semester 3.7 Credits

Design, implementation and validation of computer models of discrete and continuous systems. Statistics, random variate generation, experimental design and planning considerations are covered by example and by completion of a semester project. Use of general purpose and high-level simulation languages.

Class: 3 hours a week
Laboratory: 2 hours a week
Prerequisite: Computer Fundamentals (7101).

Decision Support Systems (7408)

Spring Semester 3.7 Credits

Computer Hardware and Software as it is used to meet the decision making needs of a manager. Conversion of raw data into useful decision-information to support or enhance the manager's decision making ability. Overview o[illegible]ting and proposed computerized Decision Support Systems. Study of Coast Gua[illegible]andard terminal applications, district mini-computer network and local decision support systems.

Class: 3 hours a week
Laboratory: 2 hours a week
Prerequisites: (7101), (3213), (7201, 7404 desired)

ECONOMICS

Macroeconomic Principles (8215)
Fall Semester 3 Credits
Basic concepts methodology and fundamental problems of macroeconomics measurement and theoretical analysis of aggregate economic activity. Public policy for economic stability and growth. Money and banking.
Class: 3 hours a week

Microeconomic Principles (8217)
Spring Semester 3 Credits
Consumer behavior and theory of demand. Production cost, theory of supply and firm behavior in different market structures. Public policy to improve market performance. Resource markets. International trade.
Class: 3 hours a week

Economics (8311)
Fall and Spring Semesters 3 Credits
Survey of micro and macroeconomic principles. Analysis of consumer behavior and theory of demand; production cost and theory of supply; firm behavior in different market structures. National income accounting; analysis of macroeconomic performance; money and banking; monetary and fiscal policy; unemployment and inflation.
Class: 3 hours a week

Microeconomic Theory (8313)
Fall Semester 3 Credits
Indifference curve theory and analysis of consumer behavior. Production theory, cost theory, and analysis of producer behavior in different market structures. Market performance and public policy. Welfare economics. Analysis of resource markets.
Class: 3 hours a week
Prerequisite: Microeconomic Principles (8217).

Macroeconomic Theory (8315)
Fall Semester 3 Credits
Analysis of the determination of national income, price level, and rate of growth in a market economy. Basic theories of product, money, and labor markets and their interactions; inflation and unemployment; sources of economic instability; stabilization policies.
Class: 3 hours a week
Prerequisite: Macroeconomic Principles (8215).

Money and Banking (8317)
Fall Semester 3 Credits
Introductory analysis of the monetary and financial systems in the United States. Structure and working of banking and nonbanking financial institutions; credit and capital markets; Federal Reserve System; monetary policy in relation to changes in domestic and international economic activity.
Class: 3 hours a week
Prerequisite: Microeconomic Principles (8217).

Environmental Economics (8319)
Spring Semester 3 Credits
Economics of environmental preservation and protection within macroeconomic and energy constraints. Public policy for managing energy and environmental resources. Formal analysis of the abatement of pollution by business enterprises and government. Major research paper required.
Class: 3 hours a week
Prerequisite: Economics (8311) or Microeconomic Principles (8217).

Transportation Economics (8321)

Fall Semester 3 Credits

Analysis of the transportation industry in the United States. The role of regulatory and administrative agencies. Carrier management, intermodal relationships, and the management of physical distribution/logistics. Major research paper required.

Class: 3 hours a week

Prerequisites: Economics (8311) or Microeconomic Principles (8217).

International Trade and Finance (8323)

Fall Semester 3 Credits

Analysis of the basic theories and policy issues in international economic relations. Theories of trade; economic growth and trade; tariffs, quotas, and other barriers of trade; custom unions and common markets. Currency systems, exchange rate adjustments, balance of payments, balance of payments adjustments, and U.S. commercial policy. Major paper required.

Class: 3 hours a week

Prerequisites: Macroeconomic Principles (8215), Microeconomic Principles (8217).

Consumer Economics (8413)

Fall Semester 1 Credit

Decision making in major consumer issues. Budgeting and financial planning. Time value of money. Risk analysis. Analysis of life insurance, consumer credit, contracts, mortgages and investment alternatives including home buying. Role of Coast Guard officer in financial counseling.

Class: 1 hour a week

Economics of Labor/Management Relations (8427)

Spring Semester 3 Credits

Problems and processes of labor-management relations. Labor movement in the United States in a historical perspective; labor market; wage determination under trade unionism; wages, productivity and inflation; union structure and government; behavioral frameworks of labor-management relations, contract negotiation, interpretation, and administration; collective bargaining; dispute resolution procedures; selected economic issues of unionism. Case studies.

Class: 3 hours a week

Prerequisite: Microeconomic Principles (8217).

Directed Studies in Economics (8439)

3 Credits

An in-depth, major research effort in an area of mutual interest to cadet and faculty member directing study; project proposal to be submitted in semester prior to that during which directed study shall be pursued.

Class: 3 hours a week

Prerequisite: Recommendation of Academic Advisor and approval of Department Head

MANAGEMENT

Organizational Behavior (8245)

Fall and Spring Semesters 3 Credits

Examine the relationship of individual and group behavior in organizations to organizational effectiveness. Uses case studies, classroom exercises, lecture and discussion to develop an understanding of motivation, group dynamics, leadership, organization design principles, communications and performance management with particular attention to the practical implications of current theory in these areas.

Class: 3 hours a week

Financial Accounting (8347)

Fall Semester 3 Credits

Accounting process as a system for financial analysis, planning, and control. Fundamental accounting techniques related to the Balance Sheet, Income Statement, and Statement of Change in Financial Position. Accounting for current and long-term assets, current and long-term liabilities, and owner's equity related to corporations, partnerships and sole proprietorships. Accounting for sales, purchases, inventories, depreciation, and leases. Extensive problem-solving.

Class: 3 hours a week

Financial Management (8349)
Spring Semester 3 Credits
Decision-making in managerial finance. The use of accounting information. Methods of planning, forecasting, and controlling. Analyzing financial activities of business or governmental organizations. Working capital management, capital budgeting, cost of capital, leasing, debt financing, use of leverage, funds flow analysis, and financial ratio analysis. Extensive problem-solving.
Class: 3 hours a week
Prerequisite: Financial Accounting (8347).

Operations Research (8351)
Spring Semester 3 Credits
Quantitative techniques for managerial decision-making: forecasting, optimization models, simulation, linear programming, inventory control, queuing theory, and network models. Emphasis on applications of models rather than mathematical theory. Extensive problem-solving.
Class: 3 hours a week
Prerequisite: Quantitative Methods (8363).

Organizational Development (8355)
Fall Semester 3 Credits
In-depth study of organizational change. Emphasis on organization development techniques: team building, structural change, conflict management, and process consultation. Role of change agent, combining theory with practical experience. Term paper.
Class: 3 hours a week
Prerequisite: Organizational Behavior (8245)

Personnel Management (8357)
Fall Semester 3 Credits
Personnel/Human Resources Management concepts: analysis of bureaucracy, recruitment, selection, performance evaluation, promotion, retention, EEO guidelines, Federal regulations. Term paper. Seminar.
Class: 3 hours a week
Prerequisite: Organizational Behavior (8245).

Transportation Policy (8361)
Spring Semester 3 Credits
Transportation planning and policy development. Consideration of topical intermodal and intramodal problems, conflicts, and issues. Extensive evaluation of U.S. maritime industry. Case studies of all modes of transportation. Research paper. Seminar.
Class: 3 hours a week
Prerequisite: Transportation Economics (8321).

Quantitative Methods (8363)
Fall Semester 4 Credits
Introduction to techniques of quantitative analysis. Applications of probability and statistics, data analysis and matrix algebra. Applied decision theory, game theory, break-even analysis, marginal analysis and investment decisions. Use of econometric methods, simple and multiple linear regression models, curve-fitting and time series analysis. Coverage of some classical optimization techniques. Extensive problem-solving and computer applications. Term project.
Class: 4 hours a week

Public Systems Analysis (8425)
Spring Semester 3 Credits
Analytical principles of policy analysis in public sector systems. Economic effects of public decisions: social gains and costs efficiency, and equity. Systems analysis techniques: formulation, search, evaluation, interpretation, and verification. Economic analysis of projects. Case studies.
Class: 3 hours a week
Prerequisites: Economic Principles II (8217), Operations Research (8351).

Management Policy (8447)

Spring Semester 3 Credits

Strategy and policy development in the private and public sectors. Emphasis on environmental analysis, multinational corporate policy; social responsibility and ethics. The relationships of finance personnel, and structure to policy decisions. Extensive use of case study. Term paper.

Class: 4 hours a week

Prerequisite: Operations Research (8351)

Directed Studies in Management (8469)

Fall and Spring Semesters 3 Credits

An in-depth, major research effort in an area of mutual interest to cadet and faculty member directing study; project proposal to be submitted in semester prior to that during which directed study shall be pursued.

Class: 3 hours a week

Prerequisites: Recommendation of Academic Advisor and approval of Department Head

SPECIAL PROGRAMS

Connecticut College (9424)

Fall and Spring Semesters

The Coast Guard Academy participates in an exchange program with Connecticut College. Enrollment is normally limited to First Class Cadets who have a CGPA of at least 3.00. All Connecticut College Courses are of 4.0 credit value. For more information refer to SUPT INST 1531.12.

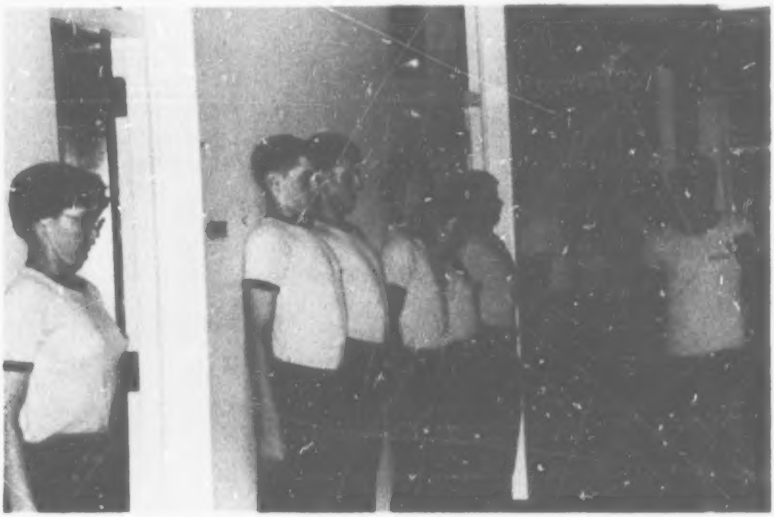
Scholars Project (9425)

Spring Semester No Credits

Program of independent study and research in an area of interest to the highly qualified cadet. Requires a major academic commitment of the scholar to problem definition, analysis and evaluation. Oral presentation and written report required.

Class: As assigned

Prerequisite: Academic Council Approval.



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NEW ENGLAND ASSOCIATION OF SCHOOLS AND COLLEGES

The Coast Guard Academy is accredited by the New England Association of Schools and Colleges, Inc., which accredits schools and colleges in the six New England states. Accreditation by the Association indicates that the institution has been carefully evaluated and found to meet standards agreed upon by qualified educators.

In an era of immense change affecting all levels of education, the United States Coast Guard Academy recognizes the need for standards that transcend the widely varying conditions in local institutions, communities, and states. The United States Coast Guard Academy supports the efforts of secondary school officials and governing bodies to have their schools achieve regional accredited status to provide reliable assurance of the quality of the educational preparation of its applicants for admission.

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The Civil, Electrical, and Marine Engineering Programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

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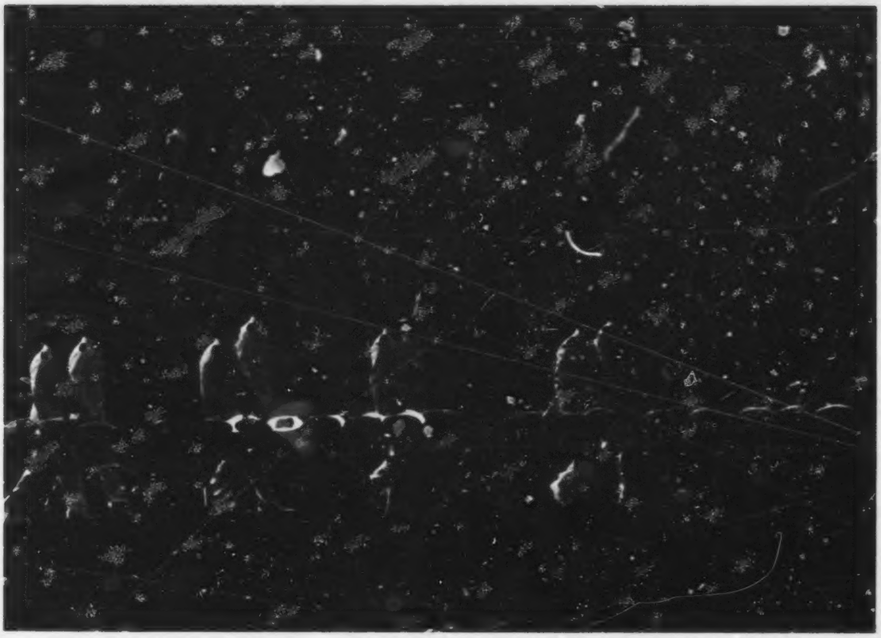

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Each year, on the day before Graduation, an Awards Ceremony is held to honor those cadets excelling in Academics and Military and Professional expertise.

GRADUATE AWARDS

U.S. Coast Guard Academy Alumni Association.—A U.S. Savings Bond and a Gold Medal are awarded by the U.S. Coast Guard Academy Alumni Association to the cadet attaining the highest academic standing for the entire course of instruction. First awarded in 1928.

Capt. Charles A. McAllister Memorial.—A certificate of award and cash are awarded by the American Bureau of Shipping in memory of the late Captain (E) Charles A. McAllister, who was Engineer-in-Chief of the U.S. Coast Guard, to the cadet who has shown the highest proficiency in engineering subjects during the entire course of instruction. First awarded in 1930.

Connecticut Daughters of the American Revolution.—A U.S. Savings Bond is awarded by the Connecticut Daughters of the American Revolution to the cadet who attains the highest conduct rating throughout the course. First awarded in 1932.

Coast Guard League.—A watch and a life membership certificate in the Coast Guard League are awarded by the Coast Guard League to the cadet who is deemed most proficient in the art of navigation. First awarded in 1935.

The American Legion.—A watch is awarded by The American Legion to the cadet who is considered to have excelled personally in athletics. First awarded in 1939.

Veterans of Foreign Wars of the United States.—An engraved silver service is awarded by the Veterans of Foreign Wars of the United States to the cadet whose studies in the humanities have been most outstanding. First awarded in 1939.

National Society Daughters of the American Revolution.—An engraved silver tea set is awarded by the National Society Daughters of the American Revolution to the cadet who excels in theoretical and practical seamanship. First awarded in 1940.

The National Woman's Relief Corps.—An engraved silver service is awarded by The National Woman's Relief Corps Auxiliary to the Grand Army of the Republic, Inc. to the cadet who stands highest in the Law course. First awarded in 1940.

Ladies Auxiliary to the Veterans of Foreign Wars of the United States.—An engraved silver coffee set is awarded by the Ladies Auxiliary to the Veterans of Foreign Wars of the United States, to the cadet who has shown the greatest improvement in class standing. First awarded in 1940.

Military Order of Foreign Wars of the United States.—A U.S. Savings Bond is awarded by the Military Order of Foreign Wars of the United States to the cadet who is deemed most proficient in the handling of sailing vessels. First awarded in 1941.

National Society Daughters of Founders and Patriots of America.—An engraved silver service is awarded by the National Society Daughters of Founders and Patriots of America to the cadet who is deemed to have excelled in American History. First awarded in 1941.

Capt. Chester E. Dimick Memorial.—A U.S. Savings Bond and a silver bowl are awarded by the estate of Mrs. Chester E. Dimick as a memorial to the late Captain Chester E. Dimick, USCG, to the cadet who attains the highest proficiency in Mathematics. The Mathematics award was established in 1944.

Thomas Newcomen Memorial.—A cash prize is awarded by the Newcomen Society in North America to the cadet who attains the highest proficiency in Physics. First awarded in 1945.

American Institute of Marine Underwriters.—A watch is awarded by the American Institute of Marine Underwriters to the cadet who is deemed most proficient in Economics. First awarded in 1946.

Superintendent's Award.—An engraved silver bowl is awarded by the Shield Club of Boston to the cadet who, in the opinion of classmates, leads the class in personal character. First awarded in 1949.

Pfizer, Inc.—A typewriter is awarded by Pfizer, Inc. to the cadet who exhibits the greatest competence in Chemistry. First awarded in 1953.

The Military Order of the World Wars.—A pistol is awarded by The Military Order of the World Wars to the cadet who attains the highest proficiency in pistol marksmanship. First awarded in 1953.

Navy League of the United States.—A clock is awarded by the Navy League of the United States to the cadet who attains the highest proficiency in Electrical Engineering. First awarded in 1956.

United States Coast Guard Auxiliary.—An engraved silver service is awarded by the United States Coast Guard Auxiliary to the cadet who attains the highest proficiency in boatmanship. First awarded in 1957.

Hunnewell Award.—A U.S. Savings Bond is awarded by the estate of the late Commander Frederick A. Hunnewell, USCG, to the graduating cadet who is deemed most proficient in Naval Architecture and Ship Design. First awarded in 1957.

The American Society of Naval Engineers, Inc.—An engraved silver service is awarded by The American Society of Naval Engineers, Inc., to the cadet who is deemed most proficient in Marine Engineering. First awarded in 1957.

National Society of New England Women.—An engraved silver tea service is awarded by the National Society of New England Women to the cadet who excels in Communications. First awarded in 1957.

Admiral Raphael Semmes Memorial.—A pair of binoculars is awarded by the United Daughters of the Confederacy to the cadet in an Engineering Major who ranks highest in his graduating class. First awarded in 1958.

Rear Admiral E.H. Smith Award.—A pair of binoculars is awarded, in memory of the noted oceanographer, Rear Admiral E.H. Smith, to the cadet with the highest proficiency in Ocean Science. First awarded in 1962.

National Ladies Auxiliary Jewish War Veterans of the U.S.A.—An engraved silver set is awarded by the National Ladies Auxiliary Jewish War Veterans of the U.S.A. to the cadet who stands first in the course Principles of Government. First awarded in 1962.

Chief Warrant and Warrant Officers Association United States Coast Guard.—A watch is awarded by the Chief Warrant and Warrant Officers' Association United States Coast Guard to the cadet who, having participated in two or more intramural sports during each of the four years, has been chosen by classmates as the outstanding athlete in the Intramural Athletic Program. First awarded in 1963.

Ensign Joseph H. Hughes, III (Class of 1963) Memorial.—An engraved silver set and scroll are awarded by Mr. Joseph H. Hughes as a memorial to his son, the late Ensign Joseph H. Hughes, III, USCG, to each of the two cadets who have contributed the most to the Protestant and Catholic Chapel Programs through their participation. First awarded in 1964.

National Society Daughters of the American Colonists.—An engraved silver service is awarded by the National Society Daughters of the American Colonists to the cadet who has demonstrated the highest degree of initiative, competence and scholarship in the execution, presentation and defense of the First Class year study project in Engineering. First awarded in 1964.

Ancient and Honorable Artillery Company of Massachusetts.—An engraved silver set is awarded by the Ancient and Honorable Artillery Company of Massachusetts to the cadet who attains the highest proficiency in rifle marksmanship. First awarded in 1973.

Daughters of Union Veterans of the Civil War.—An engraved silver set is awarded by the Daughters of Union Veterans of the Civil War to the cadet who attains the highest proficiency in Civil Engineering. First awarded in 1973.

Fleet Reserve Association.—A digital watch is awarded by the Fleet Reserve Association to the cadet who has demonstrated excellence in the introductory and advanced Computer Science program. First awarded in 1974.

Captain Hopley Yeaton Award.—A watch is awarded by McCormick & Co. Inc., in memory of the late Charles P. McCormick, to the cadet who exhibits the highest qualities of military leadership. This award honors Captain Hopley Yeaton, who in 1790 became the first Commissioned Sea-Going Officer of the United States and of the Coast Guard. First awarded in 1974.

Sealand Environmental Engineering, Inc.—A ship's bell clock is awarded by Sealand Environmental Engineering, Inc., to the cadet who has demonstrated the highest degree of perseverance in obtaining a commission. First awarded in 1975.

Community Service Credit Union.—A Community Service Credit Union account cash deposit is awarded by the Community Service Credit Union to the cadet who excels in finance. First awarded in 1975.

Jewish War Veterans of the United States of America.—A U.S. Savings Bond and a plaque are presented by the Jewish War Veterans of the United States of America to the cadet who hs excelled in Ocean Engineering. First awarded in 1976.

Lieutenant Commander Donald L. Prince Award.—A U.S. Savings Bond is awarded by Mrs. John T. Prince as a memorial to her son, the late LCDR Donald L. Prince, USCG, Class of 1956, U.S. Coast Guard Academy. LCDR

Prince was killed when his helicopter crashed while on a rescue mission in 1964. The award is given to the cadet deemed most proficient in Management. First awarded in 1976.

Robert D. Hoffman Award.—A cash prize and a plaque are awarded by Mr. Irwin D. Hoffman in memory of his brother, to the cadet who excels in Operations Research. First awarded in 1976.

Vice Admiral J.J. McClelland Award.—A cash prize and a plaque are awarded by the Twelth Coast Guard District Auxiliary and Fellow Officers and friends of the late Vice Admiral J.J. McClelland to the cadet who has been most proficient academically, militarily and athletically and who has been an outstanding leader with genuine affection for the Coast Guard Academy and its traditions. First awarded in 1976.

Eagle Award.—A cash prize and a certificate are awarded by the Class of 1951, U.S. Coast Guard Academy to the cadet who exhibits the highest proficiency in Professional Studies. First awarded in 1977.

The Commodore E.M. Webster, USCG, Memorial Award.—A ship's bell clock is awarded by the Armed Forces Communications and Electronics Association to the cadet who has demonstrated the highest proficiency and skill in Communications-Electronics. First awarded in 1978.

Coast Guard Academy Parents Association.—A cash prize is awarded by the Captain Paul F. Foye Chapter, Coast Guard Academy Parents Association to the cadet who has given the highest level of service to the Academy during the four years of attendance. First awarded in 1979.

UNDERGRADUATE AWARDS

Ensign David A. Hoffman Award.—A watch and plaque are awarded by the Robert and Arnold Hoffman Foundation, Inc., to the Fourth Class Cadet with the highest academic average, in memory of Ensign David A. Hoffman, USNR, who was lost when the Coast Guard Cutter TAMPA was sunk in September, 1918.

USS Tampa Coast Guard Post #719 American Legion Award.—A sword is presented by the USS Tampa Coast Guard Post #719 American Legion to the Third Class Cadet with the highest aptitude for Service at the end of the Third Class Year.

Commandant's Award.—A watch and plaque are awarded by the Commandant, United States Coast Guard, to the Third Class Cadet with the highest academic standing at the end of the Third Class Year.

U.S. Coast Guard Academy Alumni Association.—A silver medal is awarded by the U.S. Coast Guard Academy Alumni Association to the Second Class Cadet with the highest academic average at the end of the second class year.

D.J. Angus - Scientech Educational Foundation, Inc., Award.—A cash prize and certificate are awarded by the D.J. Angus-Scientech Educational Foundation, Inc., to the cadet in an Engineering Major who stands highest in the class at the end of the Second Class Year. The award is in memory of Mr. Angus who was an outstanding Engineer, Entrepreneur, Officer, Inventor and Educator and who helped deserving students.

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ADMISSION REQUIREMENTS

ADMISSION

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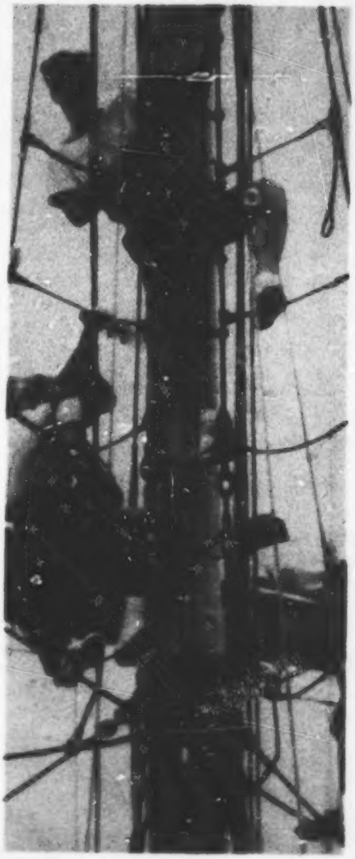


ADMISSION REQUIREMENTS

General

The United States Coast Guard Academy is the only one of the Armed Forces Service Academies which tenders appointments solely on the basis of an annual nationwide competition. There are no congressional appointments, as at the other academies, nor are there any geographical quotas.

The competition for appointment as a cadet is based on your high school rank, your performance on either the College Board Scholastic Aptitude Test (SAT) or the American College Testing Assessment (ACT), and your leadership potential as demonstrated by participation in high school extracurricular activities, community affairs, or part-time employment.

Eligibility Requirements

In order to be eligible to compete for an appointment, you must fulfill the following requirements:

Age: You must have reached the age of 17, but must not have reached the age of 22, by July 1 of the year you are to be admitted as a cadet. If under 18 years of age, you will be required to furnish the written consent of parent or guardian before admission to the Coast Guard Academy.

Citizenship: You must be a citizen of the United States at the time of entry into the Academy. (Foreign Nationals nominated by mutual agreement between the United States and their native country are exempt from this requirement).

Marital Status: A candidate must be unmarried at the time of appointment and have no legal obligation resulting from a prior marriage. Any cadet who shall marry, or who shall be found to be married, or to have been married before final graduation, shall be required to resign. Refusal to resign will result in dismissal.

Character: You must satisfy the Commandant of the Coast Guard as to your good moral character and standing in the community. Your background must demonstrate positive evidence of responsibility, trustworthiness, and emotional stability.

No person who has been dismissed or compelled to resign from the United States Military Academy, the United States Naval Academy, the United States Air Force Academy, the United States Merchant Marine Academy, or the United States Coast Guard Academy for improper conduct is eligible for appointment as a cadet in the Coast Guard. No person whose discharge from any branch of the military service was under conditions other than honorable is eligible for appointment as a cadet.

Height and Weight: You must be between 5′ and 6′6″ with weight suitable to your physique. You must also successfully undergo a Service Academy Medical Examination before entering the Academy.

Scholastic Requirements: A candidate must be a graduate of an accredited high school or preparatory school or be in actual attendance in senior year at an accredited preparatory school or high school, and have already completed three (3) years' work at such a school. A candidate indicating prospective graduation from a preparatory school or high school must, as a condition of admission, satisfactorily complete his course not later than June 30. With the exception of courses completed by correspondence, for which credit has been granted by an accredited school, correspondence schools do not meet the requirements for "Accredited Schools." Certificates issued by correspondence schools will not be accepted. A total of 15 units obtained in high school, preparatory school, or college must be submitted.

The definition of a unit and of the ground covered by the designated subjects is as follows: A unit represents a year's study in any subject in a secondary school. A 4-year secondary school curriculum should be regarded as representing 16 units of work. This statement is designed to afford a standard of measurement for the work done in secondary schools. It takes the 4-year high school course as a basis, and assumes that the length of school year is from 36 to 40 weeks, that a period is from 40 to 60 minutes in length, and that the study is pursued for 4 or 5 periods a week; but under ordinary circumstances a satisfactory year's work in any subject cannot be accomplished in less than 120 sixty-minute periods or their equivalent. Schools organized on any other than a 4-year basis can, nevertheless, estimate their work in terms of this unit.

Required Courses: The subjects listed below, comprising 6 units, are mandatory and are required for eligibility:

Mathematics (1) (algebra to quadratics)	1
Mathematics (2) (quadratics and beyond)	1
Mathematics (3) (plane geometry)	1
English 1, 2, and 3	3
Total	6

Optional: Further evidence of adequate preparation, amounting to 9 units of optional subjects is required and may be offered from the following groups:

Mathematics
Fourth Year English
Social Studies (history, civics, problems of democracy, citizenship, American problems, sociology, Government).
Biological Science (biology, sociology, botany, physiology).
Physical Science (physics, chemistry, general science, geology, astronomy).
Foreign Language (not less than 2 units credit will be allowed in any language. This means the student must complete, successfully, a 2-year course in an accredited school).

A total of not more than 2 units credit will be accepted from any or all of the following groups:

Agriculture
Commercial Arithmetic
Commercial History
Commercial Law
Driver Education
Drama
Fine Arts
Industrial Problems
Journalism
Manual Training
Mechanical Drawing
Music
Occupations
Public Speaking
Typing

While not required, it is strongly recommended that you include Solid Geometry, Trigonometry, Physics, Chemistry, and a fourth year of English in preparation.

You must submit both high school and college credits. Because of the great variation in academic standards and credit requirements among schools, the Commandant reserves the right to evaluate each academic record on its individual merits. In general, college credits and high school credits from accredited institutions will be given the same weight for the same amount of work, and in no case will one semester of college work be considered equivalent to more than one unit of high school work.

The Commandant reserves the right to reject any applicant whose assigned grades create doubt as to his or her ability to successfully pursue the Academy course.

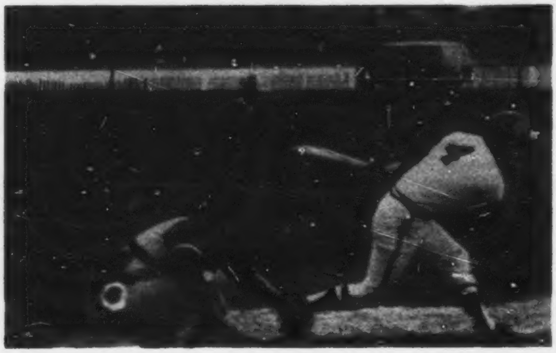
Physical Aptitude: You must, during the first week of swab summer and semi-annually thereafter, qualify in physical aptitude as determined by two one-hour examinations. This examination measures neuro-muscular coordination, muscular power, speed and strength, cardiovascular endurance, and flexibility. The examination will consist of a number of tests such as: pull-ups or flexed-arm hangs; two minute sit-ups; long jump; 300 yard shuttle run; 1.5 mile run. Candidates are advised to condition themselves physically by participation in a wide range of physical activities prior to arrival at the Academy.

Reporting to Academy: Candidates tendered appointments report to the Academy in late June. Young men and women appointed as cadets who will not graduate before the beginning of the summer term may request a delay in reporting date by writing to the Superintendent. Reimbursement for travel from home to the Academy is granted at the rate of 18½ cents per mile.

International Cadets: Pursuant to Public Law 94-468, the Coast Guard Academy may admit up to 36 international cadets for training. The candidates must be nominated by their native country through the U.S. State Department. For further information on the admission of international cadets, please write to Director of Admissions, U.S. Coast Guard Academy, New London, CT 06320.

Deposit: A deposit of $500 is required to defray initial clothing and equipment costs. One hundred dollars of this sum is required at the time the candidate is tendered an appointment. The remainder is paid when the candidate reports to the Academy. This requirement may be waived in hardship cases.

CGA



Scholarships awarded at high school graduation by local civic or fraternal organizations may be accepted to defray the required deposit. Travel reimbursement may be applied toward the deposit.

Obligation to Serve: When appointed, a cadet agrees to serve five years as a commissioned officer in the U.S. Coast Guard after graduation from the Coast Guard Academy. Each cadet will be required to sign an agreement, with the consent of their parent or guardian if a minor, stating that they will fulfill this obligation.

A resignation tendered by a third or fourth class cadet will be accepted when found to be in the best interest of the service. A fourth or third class cadet will be discharged in accordance with the regulations governing the Cadet Corps.

First or second class cadets who resign or who are disenrolled or dismissed will be transferred to the "Individual Ready Reserve RN" in the rating of quartermaster second class or quartermaster third class respectively, (Seaman if disenrolled for reasons of conduct or aptitude), for a period of service equal to their service as a cadet.

Exceptions:

(1) Cadets with prior service in the USCG or USCGR will revert to their prior enlisted status and complete the remainder of their active duty obligation.

(2) Cadets with prior enlisted service in another Armed Force will revert to their prior status and be transferred to their former branch of service.

(3) First or second class cadets with prior civilian status may choose to be assigned to either the Selected Reserve or Active Duty Reserve in lieu of the "Individual Ready Reserve (RJ)". This assignment will be for a period of time equal to their service as a cadet.

Cadets who have completed their course of instruction and are qualified to accept a commission but do not do so will be transferred to the CG Reserve in the rate of QM2 and ordered to active duty for four years. The four year obligation will commence upon disenrollment.

How to Become a Cadet

A. To Make Application for Appointment as Cadet, United States Coast Guard, you proceed as follows:

1. Making application to the Coast Guard Academy for appointment.

A candidate for appointment must submit to the Coast Guard Academy an application requesting participation in the competition for appointment.

a. You will find enclosed in this booklet the following form: Application for Appointment as Cadet, U.S. Coast Guard (CG-4151). Fill out completely and mail directly to: Director of Admissions, U.S. Coast Guard Academy, New London, Connecticut 06320. This form must be postmarked no later than **December 15** in order for you to receive consideration for the class entering the following June.

b. The following forms will be mailed to you by the Academy upon receipt of Form CG-4151:

(1) Cadet Candidate Questionnaire
(2) Request for Secondary School Information
(3) School Official's Evaluation of Candidate Forms

(4) Evaluation Questionnaire — Military Personnel (CG-4155)

These forms must be completed and returned prior to **January 15.**

2. Application for testing:

All candidates for admission to the Coast Guard Academy must take either the College Board Scholastic Aptitude Test (SAT), or the American College Testing Assessment (ACT).

To register for the SAT, obtain a current copy of the College Board Student Bulletin from your counselor. If you are unable to obtain a copy write the College Board Admissions Testing Program either at Box 592, Princeton, New Jersey 08540, or Box 1025, Berkeley, California 94701. You must take the SAT prior to or including the December test date of the year in which making application for the Academy. Registration for the December SAT closes in late October of each year. The Coast Guard Academy must be named as one of the colleges to receive the test scores. Our code number for College Board is 5807.

If you desire to use the ACT, it is again your responsibility to register for the test. Registration instructions are contained in the registration packet which is available at most secondary schools. If you are unable to obtain a packet, write to the Registration Department, American College Testing Program, Box 414, Iowa City, Iowa 52243. The ACT must be taken prior to or including the December test date of the year in which making application to the Academy. Registration for the December ACT closes in late October of each year. The Coast Guard Academy must be named as one of the colleges to receive the test scores. Our code number for ACT is 0600.

BE CERTAIN THAT YOU REGISTER PRIOR TO THE DEADLINE ESTABLISHED BY EITHER THE COLLEGE BOARD OR ACT FOR THE DECEMBER TEST ADMINISTRATION. SCORES FROM TESTS SUBSEQUENT TO THE DECEMBER ADMINISTRATION WILL NOT BE ACCEPTED.

3. Expenses:

You must bear all expenses connected with appearing for your medical examination and taking either the SAT or ACT.

B. How Candidates are Selected for Appointment as Cadet, United States Coast Guard

1. Appointment as Cadet, USCG:

Appointments are tendered on the basis of an annual nationwide competition. There are no congressional appointments, state quotas or special categories. All applicants, civilians and members of the Armed Forces participate in the competition on an equal basis.

The annual competition for appointment as Cadet, U.S. Coast Guard, is designed to select, on a fair, competitive basis, those candidates who are best qualified and most likely to succeed as cadets and officers in the U.S. Coast Guard. Successful completion of the Academy course and success as an officer depend on:

a. An adequate educational background;

b. The possession of aptitudes related to both technical and cultural studies;

c. A sincere interest in the Coast Guard as a career; and
d. Relevant personality and physical characteristics.

In addition to the essential virtues of honesty, dependability and perseverance, the above paragraph of this section includes physical stamina, coordination, physical and mental courage, self-confidence, emotional stability, alertness, leadership and the ability to live and work harmoniously in close contact with others. The selection procedures will measure as fairly and accurately as possible the extent to which each candidate meets these requirements.

2. Test Score Reports:

The Coast Guard Academy will report to you only the weight assigned each test, your total weighted score achieved on the academic portion of the competition and the qualifying score for further consideration for appointment.

SELECTION

The criteria used in the selection are the SAT or ACT examination, the transcripts, evaluations, and questionnaires furnished by each candidate.

The results of the academic portion of the competition, consisting of your high school rank in class and scores on either the SAT or ACT examination, carry a weight of 60% in the selection process. The mark assigned by the Cadet Candidate Evaluation Board carries a weight of 40%.

An applicant must obtain a minimum score on the SAT or ACT examination. The minimum SAT scores are 500 in math and a total combined score (math & verbal) of 950. The minimum ACT scores are 21 math and total combined score (math & English) of 40.

CADET CANDIDATE EVALUATION BOARD

The Superintendent of the Academy will designate a board of Coast Guard officers charged with the duty of assigning an evaluation mark to each candidate who has satisfied the minimum score requirements of the academic portion of the competition. The evaluation shall include all the factors known to influence success as a cadet and officers. The marks will be based on the relative merit of candidates as shown by tests, and questionnaires noted in paragraphs (c) and (d) of this section. The Board's decision will be based on factual, objective information such as the following:

a. The candidate's attitude toward assigned tasks and willingness to work as shown by the consistency and pattern of previous school work.

b. The candidate's previous extracurricular and athletic interests and experience, with particular attention to evidence of leadership and teamwork.

c. The candidate's personal qualities as shown by the reference questionnaire, evaluations and comments by high school counselor, principal, teachers and similar officials.

d. The candidate's score on tests of emotional stability, social adjustment, vocational interests, study habits, background, and personality characteristics as may be administered for the purpose.

The Board will be charged with the duty of obtaining the best possible cadets and officers for the Coast Guard. It is, therefore, in a candidate's interest to cooperate fully in supplying the Board with all relevant information on the factors listed in this paragraph. The Board's judgment will be final and subject to review only by order of the Commandant. To establish a list of eligible candidates and eliminate those who are markedly deficient in one or more phases of the competition, the Board will not consider candidates who fail to meet the minimum academic requirements. Candidates whose standard scores on required tests and measures fall below the prescribed individual and/or combined test level, will be eliminated from further consideration.

The final marks of each candidates are computed by averaging the standard weighted scores provided through the test marks and high school rank in class and the Cadet Candidate Evaluation Board rating.

Candidates will be offered appointments in the order of their final marks until the vacancies for the year have been filled. A candidate who fails to receive an appointment may compete again in subsequent years without prejudice, provided the age and physical qualifications are met.

The number of appointments tendered each year is determined by the Commandant of the Coast Guard and is based on the needs of the Service.

NO WAIVERS OF EDUCATIONAL OR PHYSICAL REQUIREMENTS ARE GRANTED TO APPLICANTS.

MEDICAL EXAMINATIONS:

A Service Academy Medical Examination is required before a candidate may receive an appointment. Medical examinations will be authorized by the Academy to candidates as their records become complete. The examination will be scheduled and reviewed by the Department of Defense Medical Examination Review Board (DODMERB). Once taken the examination may be used for the other Service Academies and four year ROTC Scholarship programs.

Prior to formal physical examination, all applicants are required to fill out Standard Form 93, Report of Medical History, furnishing a true account of all injuries, illnesses, operations and treatments since birth and present same to the examining medical officer. False statements or willful omissions in executing Standard Form 93 may result in the separation of the candidate from the service on arrival at the Academy or later in his service career.

Formal physical examinations prior to acceptance of candidates must be performed by a U.S. Public Health Service, Navy, Army or Air Force or medical officer, or military contracted civilian doctor. All candidates are instructed where to report for such examinations. The results of this formal physical examination must be reported on Standard Form 88, Report of Medical Examination.

The medical officer, prior to the physical examination, will review the data furnished by the candidate on Standard Form 93 as to completeness of the medical history and will then complete item 40, Standard Form 93, and sign same.

Candidates and their parents are urged to refrain from requesting waivers for medical defects since decisions to disqualify are based on medical facts revealed through a careful medical examination. These medical conclusions would preclude a candidate from receiving a commission in the Coast Guard and thus from being accepted as a cadet.

The following standards are a general, but not complete, list of items which could cause disqualification. Should there by any questions regarding causes for disqualification, information may be obtained by writing to the Department of Defense Medical Examination Review Board, U.S. Academy, CO 80840. ATTN: USCG Representative or by calling (303) 472-3562.

A cadet must pass a second medical examination during the first week at the Academy, and medically disqualifying defects will be cause for disenrollment. Therefore, it does not pay to conceal a disqualifying defect to gain admission.

1. Height and Weight: The candidate's weight should be well distributed and in proportion to age, height, and skeletal structure. Rejection will be recommended for individuals who show poor physical development or show a tendency to obesity, regardless of height and weight ratio.

To simplify the administration of physical examinations, the height and weight tables listed below will be utilized as a screening tool. If an individual does not meet this requirement he or she will be given a body fat content examination.

Height (inches	60	61	62	63	64	65	66	67	68	69
Weight (pounds)										
Men (Minimum)	100	102	103	104	105	106	107	111	115	119
Men (Maximum)	145	150	155	160	165	170	175	180	185	190
Women (Minimum)	94	96	98	100	102	104	106	109	112	115
Women (Maximum)	125	127	130	134	138	142	147	151	156	160

Height (inches)	70	71	72	73	74	75	76	77	78	79*	80*
Weight (pounds)											
Men (Minimum)	123	127	131	135	139	143	147	151	153	157	161
Men (Maximum)	195	200	205	210	215	220	225	230	235	240	245
Women (Minimum)	118	122	125	128	132	136	139	143	147	151	155
Women (Maximum)	165	170	175	180	184	189	195	200	205	210	215

	Inches
Minimum Height	60
Maximum Height	78
Minimum chest expansion	2

*Maximum height waiverable to 80 inches by Commandant (G-P)

2. Head, Scalp, Face and Neck: The following are causes for disqualification of further evaluation. Tinea of any type. Benign tumors which may interfere with the wearing of military equipment or are subject to easy irritation. Any abnormalities of the skull will be thoroughly investigated and may be cause for disqualification. Any adherent or disfiguring scars of the face, regardless of cause. Abnormalities of the thyroid. Symptomatic cervical ribs.

Presence of cervical ribs diagnosed by radiographic examination will not be cause for disqualification.

3. Nose and Sinuses: Loss of the nose, malformations or deformities that interfere with speech or breathing or extensive ulceration.

4. Mouth and Throat: Any and all abnormalities of the mouth and throat must be carefully documented and those conditions such as malformation, partial loss, atrophy or hypertrophy of the tongue; tumors, stomatitis, ranula, marked enlargement or disease of the tonsils; harelip, if disfiguring, loss or mutilation of the lips.

5. Ears and Hearing: Hearing acuity will be determined by audiometric testing on machines calibrated for ISO or ANSI and an average level of hearing loss greater than 30db or loss greater than 35db in any one frequency in the 500, 1000 or 2000Hz frequencies or loss greater than 45db in the 3000Hz frequency or loss or greater than 55db in the 4000Hz frequency will be cause for disqualification, regardless of cause. Abnormalities of the external or internal ear, unless minor. Any acute or chronic disease of the external, middle or internal ear.

6. Eyes and Vision: All candidates accepted shall have an uncorrected visual acuity no poorer than 20/200 in either eye and must be correctable to 20/20 in each eye. Additional, refractive error shall not exceed plus or minus 5.50 diopters in any meridian. Astigmatism shall not exceed 3.00 diopters and anisometropia not to exceed 3.5 diopters. Refraction is not required where the unaided visual acuity is 20/20 in each eye, unless medically indicated.

Disease of the eye shall be cause of rejection.

Contraction of visual field shall be cause of rejection.

Both eyes must be free from any disfiguring or incapacitating abnormality and from acute or chronic disease.

The requirement as given above is considered necessary in order to graduate cadets with vision sufficiently serviceable to enable them to carry out their duties at sea. During late adolescence it is quite common for developmental myopia to become manifest to such an extent that the resulting myopic visual defect is sufficient to disqualify the cadet. It is therefore imperative that a careful examination for visual acuity be performed.

7. Color Vision: Color blindness, complete or partial, is cause for rejection. Color perception will be tested by the color plate test as set forth in the American Optical Test Book, 1940 Edition, or the Farnsworth Lantern Test. Candidates who fail to pass the American Optical Company pseudoisochromatic plate test shall be considered qualified if they pass the Farnsworth Lantern test. The results of the test shall be considered final in the resolution of all cases of questionable color perception.

Detailed instruction for the administration of the Farnsworth Lantern test, as well as the criteria for passing the test, are engraved on a metal plate which is permanently attached to the instrument and shall be followed without exception. The results of the test shall be recorded in item 64, Report of Medical Examination as "Passed FaLant" or "Failed FaLant."

Candidates who failed the American Optical Company pseudo-isochromatic plate test at places where the Farnsworth Lantern test is not available may be given a reexamination on the Farnsworth Lantern test at places where same is available. The cost of travel to and from the place of reexamination and subsistence must be borne by the applicant.

8. Lungs and Chest: The lungs and chest will be examined and any of the following conditions will be cause for disqualification. Congenital malformations or acquired deformities which result in reducing the chest capacity and diminish the respiratory function so as to interfere with participation in a rigorous athletic program or produce disfigurement when dressed; deformities of the scapula sufficient to interfere with carrying of equipment or the absence or faulty development of the clavicle, ununited fractures or partial or complete dislocation of either end of the clavicle; any fractures of the ribs with faulty union if interfering with function; malignant tumors of the chest or breast; benign tumors if large enough to interfere with wearing of a uniform and equipment; tuberculosis, active of any extent or degree, a history of tuberculosis within preceding 5 years of x-ray findings of; pleurisy with effusion of unknown cause or history of, recurrent spontaneous pneumothorax within the preceding 3 years; pneumothorax, hydrothorax or hemothorax; asthma or a history of since the twelfth birthday.

9. Heart and Vascular System: All diastolic murmurs. Apical and harsh systolic murmurs will be carefully evaluated and may be cause for disqualification. Organic heart disease, congenital heart disease or pathological murmurs. Any abnormality of the heart will be carefully evaluated. Persistent blood pressure readings of above 140 systolic or 90 diastolic must be carefully evaluated. Any abnormality of the vascular system will require a thorough investigation.

10. Abdomen, Viscera, Anus and Rectum: Generally any chronic disease of the stomach and viscera, especially hernia of any variety and ulcers either active or a trustworthy history thereof, is cause for disqualification. Hemorrhoids, internal and external, are not disqualifying unless symptomatic.

11. Endocrine System and Metabolism: Any disease of the Endocrine System must be thoroughly evaluated and may be cause for disqualification. Hypothyroidism, toxic goiter and thyroid adrenoma. Persistent glycosuria and diabetes mellitus. Severe or irremediable nutritional deficiencies are disqualifying.

12. Genitourinary System: All candidates will be required to take a serologic test for syphilis. If positive, a second test may be ordered. If this test is positive it will be cause for disqualification. Among the conditions which will be cause for disqualification are diabetes mellitus or insipidus, persistent hematuria or albuminuria; diseases of the kidneys; atrophy or absence of both testicles, undescended testicle unless unilateral, abdominal and unassociated with hernia. All women must have a pelvic and/or rectal exam with a PAP test performed and reported.

13. **The Extremities:** All anomalies in the number, the form, the proportion and the movements of the extremities which produce noticeable deformity or interfere with function. Laxity of ligaments, torn cartilage, internal derangement of the knee. Entire loss of any finger. Loss of more than one phalanx of the right index finger. Loss of the terminal and middle phalanges of any two fingers on the same hand. Symptomatic pes planus. Flatfoot when accompanied with symptoms of weak foot or when the foot is weak on test. Loss of either great toe or loss of any two toes on the same foot. Any surgical procedure on any joint during the past six months.

14. **The Spine and other Musculoskeletal:** Lateral deviation of the spine if it appears likely to impair normal function. Scoliosis, kyphosis, or lordosis if severe. Fracture or dislocation of the vertebrae. Hermiated nucleus pulposis or history of operation for this condition. History of chronic or recurrent low back pain.

15. **Skin:** Eczema of long standing. Chronic impetigo, carbuncles; acne of the face or neck which is so severe as to be unsightly. Pilonidal cyst or sinus if evidenced by readily palpable tumor mass or if there is a history of inflammation or of purulent discharge.

16. **Nervous System:** Degenerative disorders such as multiple sclerosis, encephalomyelitis. Peripheral nerve disorders. Residuals of trauma. Paroxysmal convulsive disorders. Any abnormality of the Central Nervous System.

17. **Psychiatric and Personality Disorders:** Psychotic disorders or a substantiated history of psychotic episode. Character and behavior disorders which have prevented a good adjustment with particular reference to antisocial tendencies, sexual deviation, chronic alcoholism or drug addiction.

18. **Dental:** Candidates must have sufficient teeth, natural or artificial, in functional occlusion to insure satisfactory incision and mastication. Minimum requirement is on dentulous upper jaw and/or dentulous lower jaw corrected by a full denture or dentures. Carious teeth in excess of 4, except those with incipient carious lesions, must be satisfactorily restored.

1988 CLASS DATA

1988 CLASS
AGE OF CADETS AT TIME OF ENTRANCE
U.S. COAST GUARD ACADEMY

291 RESPONSES (235 Men, 56 Women)

AGE	NUMBER			PERCENT		
	(M)	(W)	(T)	(M)	(W)	(T)
17	50	17	67	21.3	30.3	23.0
18	151	30	181	64.2	53.6	62.2
19	23	8	31	9.8	14.3	10.7
20	8	1	9	3.4	1.8	3.1
21	3	0	3	1.3	0.0	1.0

PRIOR EDUCATION OF ENTRANTS, 1988 CLASS
U.S. COAST GUARD ACADEMY

291 RESPONSES (235 Men, 56 Women)

	NUMBER			PERCENT		
	(M)	(W)	(T)	(M)	(W)	(T)
One or more semesters of college	28	9	37	11.9	16.1	12.7

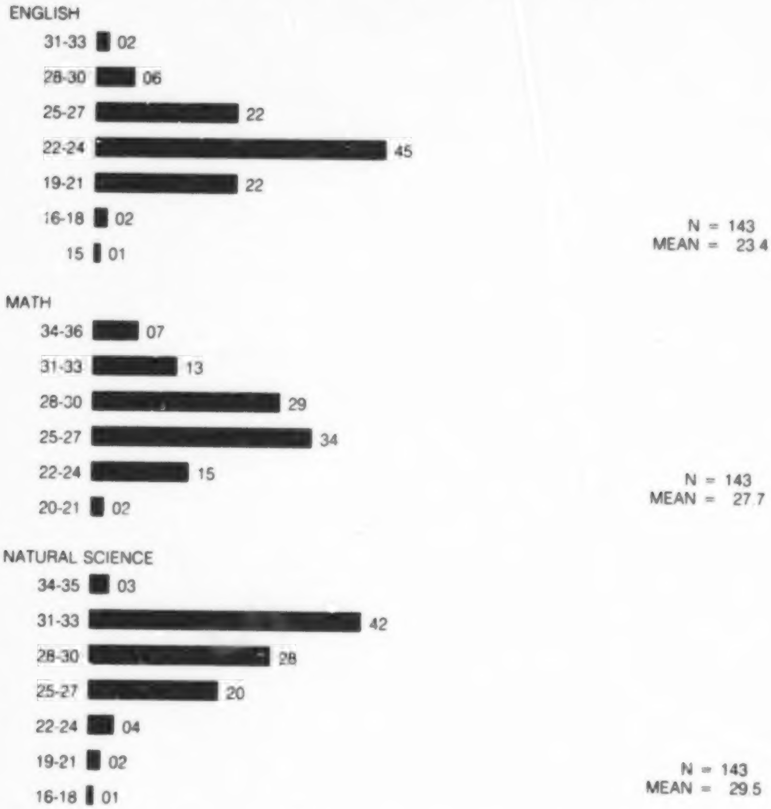
1988 CLASS
OFFICES HELD IN STUDENT GOVERNMENT AND SCHOOL CLUBS DURING SECONDARY SCHOOL

291 RESPONSES (235 Men, 56 Women)

	NUMBER			PERCENT		
	(M)	(W)	(T)	(M)	(W)	(T)
CLASS OFFICERS:						
President Senior Class	12	2	14	5.1	3.6	4.8
President other than Senior Class	23	2	25	9.8	3.6	8.6
Senior Class Officer other than President	31	17	48	13.2	30.4	16.5
President one or more school sponsored clubs	70	15	85	29.8	26.8	29.2
President one or more non-school sponsored clubs	45	6	51	19.1	10.7	17.5

CLASS OF 1988
STANDARD SCORES EARNED ON AMERICAN COLLEGE TESTING ASSESSMENT (ACT)

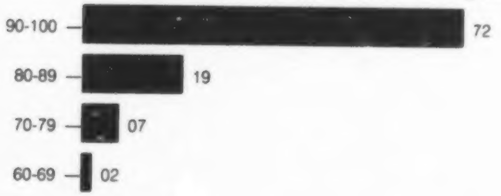
PERCENT OF CADETS FALLING IN EACH SCORE INTERVAL



The minimum standard score for all tests is 1. The maximum standard scores differ: English Usage, 33; Mathematics Usage, 36; Natural Sciences Reading, 35.

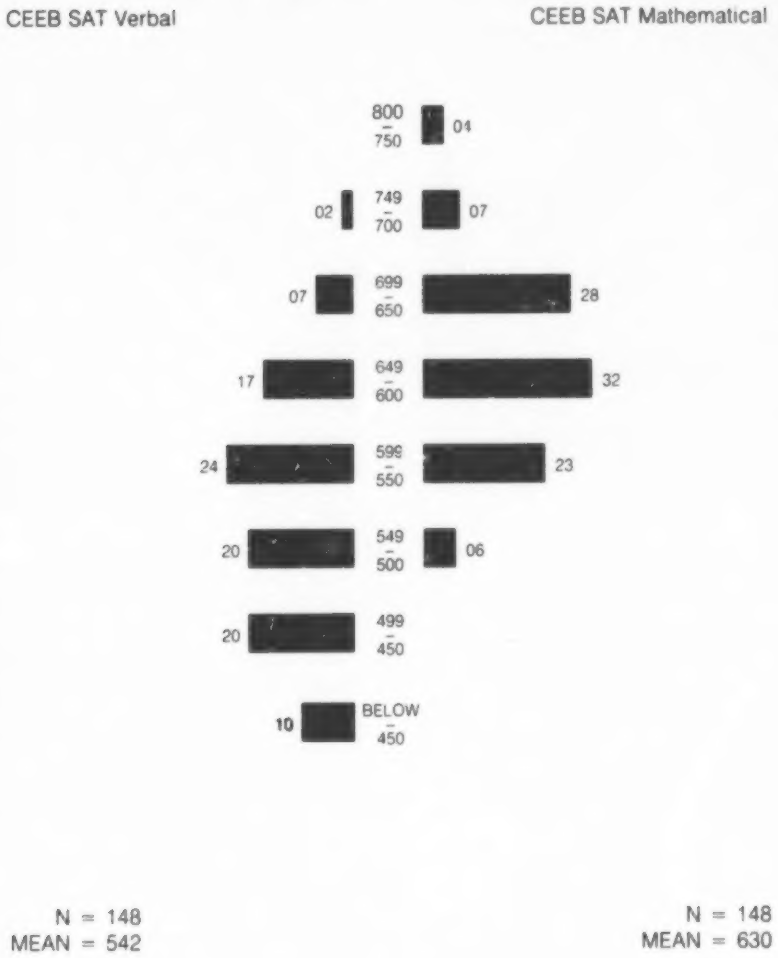
CLASS OF 1988
ACADEMIC CLASS STANDING IN SECONDARY SCHOOL OF THE 291 ENTRANTS

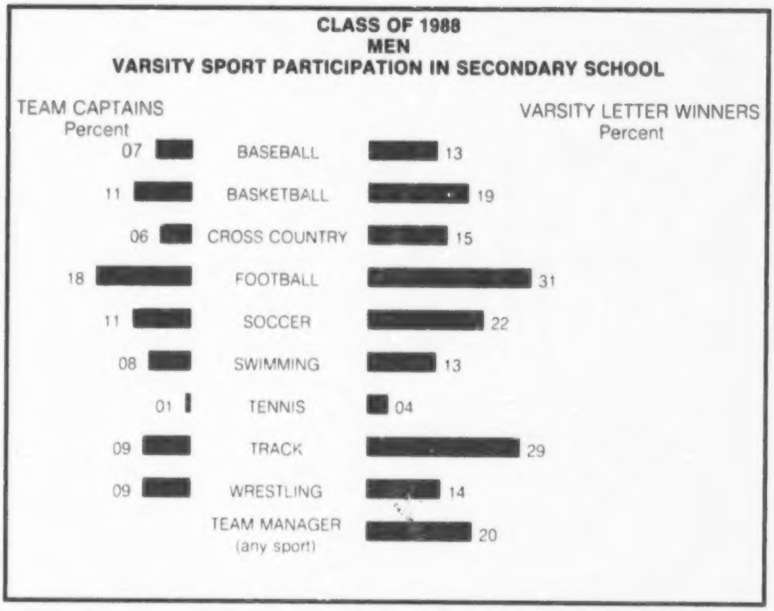
Percent of the 1988 Entering Class



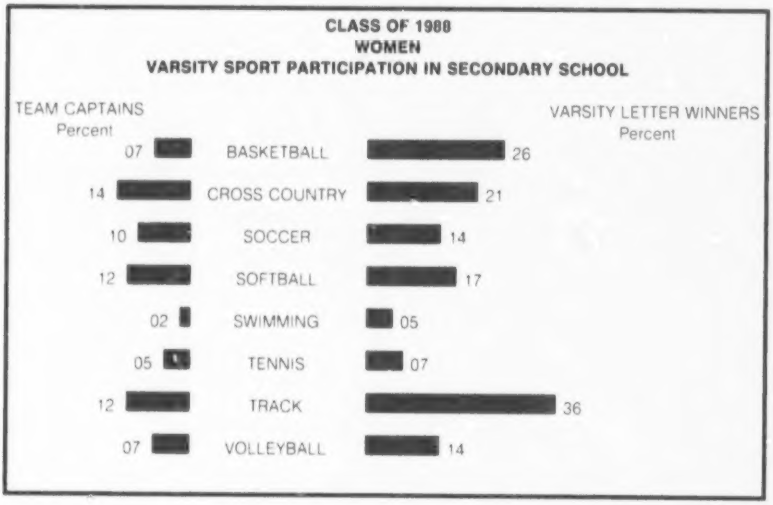
CLASS OF 1988
STANDARD SCORES EARNED ON CEEB SCHOLASTIC APTITUDE TESTS (SAT)

Percent of Cadets Falling in Each Score Interval





CLASS OF 1988
MEN
VARSITY SPORT PARTICIPATION IN SECONDARY SCHOOL



CLASS OF 1988
WOMEN
VARSITY SPORT PARTICIPATION IN SECONDARY SCHOOL

1988 CLASS
NUMBER OF ENTRANTS AWARDED ONE OR MORE SCHOLARSHIPS DURING SECONDARY SCHOOL

291 RESPONSES (235 Men, 56 Women)

	NUMBER			PERCENT		
	(M)	(W)	(T)	(M)	(W)	(T)
NATIONAL MERIT:						
Was Merit Scholar	3	1	4	1.3	1.8	1.4
Was Finalist	4	1	5	1.7	1.8	1.7
Was Semi-Finalist	8	2	10	3.4	3.4	3.4
ATHLETIC:	36	4	40	15.3	7.1	13.7
ACADEMIC:	92	25	117	39.1	44.6	40.2

CLASS OF 1988
EXTRACURRICULAR ACCOMPLISHMENTS

291 RESPONSES (235 Men, 56 Women)

	NUMBER			PERCENT		
	(M)	(W)	(T)	(M)	(W)	(T)
State or regional speech or debate contest	18	5	23	7.7	8.9	7.9
Major part in a play	42	11	53	17.9	19.6	18.2
Had poems, stories, essays or articles published	33	14	47	14.0	25.0	16.2
Placed (1st, 2nd, 3rd) in a state or regional science contest	11	4	15	4.7	7.1	5.2
High rating (good or excellent) in a state or regional music contest	19	8	27	8.1	14.3	9.3
All-state or regional orchestra, band, choir, or chorus	12	6	18	5.1	10.7	6.2
National Science Foundation summer program	2	0	2	0.9	0.0	0.7
Boys/Girls State Representative	57	6	63	24.3	10.7	21.6
Eagle Scout/Girl Scout Gold Award	19	2	21	8.1	3.6	7.2

CALENDAR

CALENDAR OF CRITICAL DATES FOR CADET CANDIDATES

June 1, 1985 through December 15, 1985	Period for submitting formal application for appointment to Director of Admissions, U.S. Coast Guard Academy.
July 1, 1985 through May, 1985	Service Academy Medical Examinations administered to candidates when authorized.
September, 1985 until late October, 1985	Period during which individual candidate must arrange through his high school guidance counselor or directly with the testing agency to participate in either the College Board Scholastic Aptitude Test (SAT) or the American College Testing Assessment (ACT).
December 1, 1985	Cadet Candidate Evaluation Board convenes.
December 7, 1985	Final SAT administration which will be accepted for the annual competition. Subsequent test scores will not be accepted.
December 14, 1985	Final ACT administration which will be accepted for the annual competition. Subsequent test scores will not be accepted.
December 15, 1985	Deadline for submitting application to the Academy.
January 15, 1986	Deadline for submitting supporting documents.
Approximately February 15, 1986	Applicants notified of examination results. List of finalists established.
April 8, 1986	Final results of competition issued to candidates. Appointments tendered.
May 1, 1986	Deadline for acceptance of principal appointments.
May 1, 1986 through June 1, 1986	Alternate appointments tendered as vacancies occur.
June 30, 1986	Class of 1990 reports to Academy.

☆U.S. GOVERNMENT PRINTING OFFICE : 1985—500-909

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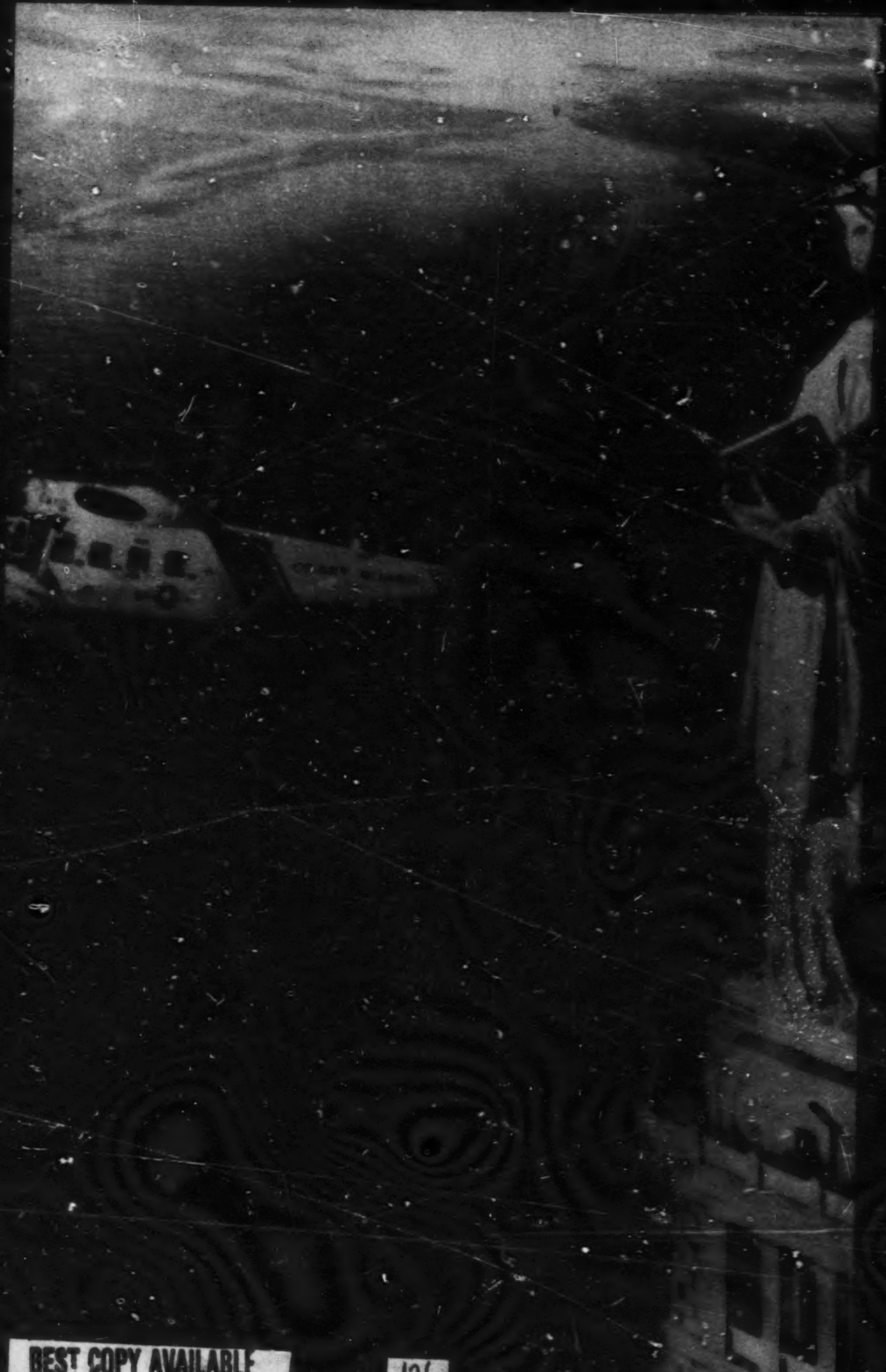

APPLICANT'S CHECK-OFF LIST

☐ 1. Review medical requirements for eligibility beginning on page 115. Give special attention to visual standards.

☐ 2. Make application to take either the College Board Scholastic Aptitude Test (SAT) or the American College Testing Assessment (ACT). The last acceptable date for SAT or ACT is December.

☐ 3. Complete and mail Application for appointment as Cadet, U.S. Coast Guard (Form CG-4151).

☐ 4. Upon receipt of Supplementary Admissions forms, take the following steps:
   - ☐ Complete and mail to the Academy.
   - ☐ Request for Secondary School Information — give to your counselor for completion. Please advise your Counselor that your ACCURATE CLASS STANDING should be reported rather than percentages, deciles, quintiles, etc. (Example — 30 out of a class of 167.)
   - ☐ School Official's Evaluation of Candidate — give forms to appropriate high school personnel for completion.
   - ☐ Evaluation Questionnaire — Military Personnel (Form CG-4155). If you are in military service, reserve program, National Guard Unit or NROTC, give this form to your Commanding Officer for completion.
   - ☐ If attending college or preparatory school, have Registrar's Office forward transcript directly to the Academy.